The JOURNAL OF HIGHER EDUCATION

MARCH
1941

VOLUME XII
NUMBER 3

··ıı CONTENTS ıı··

REMEDIAL READING IN COLLEGE — W. W. CHARTERS — 117

Through the replies received in a second Quick Survey, the Editor of the Journal has gathered a nationwide report of the efforts which are being made to help the college student who reads inadequately.

TRENDS IN HIGHER EDUCATION — HENRY LESTER SMITH — 122

Dean Smith, of the School of Education, Indiana University, summarizes the variety of changes, identifying their underlying causes, which are evident in college and university practice.

SCIENCE TEACHING AT BENNINGTON COLLEGE — 129
ROBERT H. WOODWORTH

The Chairman of the Division of Science, Bennington College, has prepared this short article as a common reply to many inquiries regarding the science work in the College.

A PLAN FOR THE PH.D. IN ENGLISH — PAUL E. REYNOLDS — 133

The article "The Literature of the Ph.D." by Mr. Bishop in the February, 1940, issue of the Journal interested Mr. Reynolds, of Northeastern University. He has here set down his ideas upon the Ph.D. in English.

NEGLECTED VALUES IN HIGHER EDUCATION — W. D. ARMENTROUT — 137

Mr. Armentrout, Acting President, Colorado State College of Education, makes suggestions for the reorganization and arrangement of the curricular and extra-curricular activities of the student so that real educational ends may be realized.

WAR AND THE WOMAN'S COLLEGE — MARY E. MURPHY — 143

An American woman, with a Doctor of Philosophy degree from London, briefly summarizes the responsibilities of women's colleges in the present social crisis. Miss Murphy is Instructor in Business Economics at Hunter College.

[Continued on the Next Page]

CONTENTS (*Continued*)

THE CALCULATION OF UNIT COSTS — HENRY BEAUMONT — 146

After submitting the suggestions regarding the unit cost of higher education contained in this article to administrative officers of the Universities of Michigan and Kentucky for their appraisal and criticism the author sent the manuscript to the Journal. Mr. Beaumont is an Associate Professor in the Department of Psychology, University of Kentucky.

THE AUTOBIOGRAPHY OF A STUDENT — ANONYMOUS — 150

The author of this article is now on the faculty of a well-known woman's college. He was graduated from a college in Kansas, attended a Methodist theological seminary, and received a Ph.D. from an eastern university.

WITH THE TECHNICIANS — 157

Should Catalogues Include Lists of Students? by Charles D. Byrne; Revising Course Content, by A. A. Johns; The Freshman Testing Program, by Emmet C. Stopher; Course Revision.

THE REPORTER — 163

Brown to microfilm rare Latin-American materials; two surveys of curricular offerings at Hamilton; gifts to Northwestern, California, and Pittsburgh; a pictorial pamphlet published by Hampton Institute; graduate fellowships in government management at Denver; new laboratory for research at Cornell; new buildings at Southern California, Tulane, and Humboldt; New Hampshire to celebrate seventy-fifth anniversary; extension of radio facilities by Texas; a list of doctoral dissertations since 1931; statistics regarding denominational junior colleges; United States Office of Education inquiry concerning adaptations to meet defense program; committee appointed to improve teacher education in New York State; research in educational motion pictures at Indiana; Penn State surveys employment of graduates; new engineering courses to supplement defense programs; financial report of colleges and universities by Office of Education; new courses at the College of the City of New York and Yale; Career Conference to be held at Temple.

EDITORIAL COMMENTS — 169

REVIEWS — 171

"History of the University of Pennsylvania," by Edward Potts Cheyney; "The University of Pennsylvania Today," by Cornell M. Dowlin; "The Medieval Library," by James Westfall Thompson; "A Functioning Program of Home Economics," by Ivol Spafford; "Sarah Lawrence Studies 1940: a Selection of Studies," by Undergraduates of Sarah Lawrence College.

THE JOURNAL OF HIGHER EDUCATION is published monthly, except during July, August, and September, by the Ohio State University; 35 cents a copy, $3.00 a year (Canadian and foreign subscriptions $3.50). The address of the editorial and business office is Bureau of Educational Research, Ohio State University, Columbus, Ohio. Entered as second-class matter October 12, 1939, at the Post Office, Columbus, Ohio, under the Act of March 3, 1879.

EACH CAN SAY

"I WAS A CLERK"

"I WAS A LINEMAN"

"I WAS A DRAFTSMAN"

THIRTY-SEVEN years ago, in 1904, the president of the American Telephone and Telegraph Company went to work as a clerk in one of the Bell System companies.

About that time, the 18 men who are now the presidents of the Bell telephone companies were starting their careers. For, like the head of the System, they have worked many years in the business — an average of 38 years each. Each of them can say: "I was a clerk," "I was a lineman," "I was a draftsman"— and so on.

The "know how" is here — for the every-day job of running the telephone business or to serve you in emergency. Up-from-the-ranks management is doubly important these days.

BELL TELEPHONE SYSTEM

The Bell System is doing its part in the Country's program of National Defense.

The Journal of Higher Education MARCH, 1941

Remedial Reading in College

By W. W. CHARTERS

A Summary of the Replies Received to a Nationwide Quick Survey Made by the Editor

THE Quick Survey is used by the JOURNAL OF HIGHER EDUCATION to draw a sketchy cross section of current college activities. The report cannot validly be used as a complete picture. We ask for information from the colleges, and we summarize the replies. Those who are interested in the status of an activity will reply and will want to hear about what others are doing. Some who are not interested, even though active, will not be represented in the summary.

For this Quick Survey we sent out 675 inquiries. From these we received 172 replies, of which 106 indicated that they operated projects in remedial reading. The percentage of respondents who conducted units was highest among the institutions belonging to the Association of American Universities; next, among the members of the Association of American Colleges; and lowest, among the members of the American Association of Teachers Colleges.

The activity is new for most institutions. Without asking for the date of inception we find that large numbers are organizing the service this year for the first time; in a large number of the cases the work has been running for only two or three years; in a substantial number for a longer period. Among the institutions which stated when they began the service Wittenberg College is the first (1929). The fact, that 106 institutions out of a possible 675 are experimenting with the idea or are beyond the experimental stage, is clear evidence that the colleges are actively interested.

The most striking characteristic of the projects is that they seem to be uniformly successful, at least no respondent said that they were not.

All but one or two units which had been running for a year, and on which two checkups had been made, showed that reading skill was improved. The measurement data are of several types. Obviously the easiest to collect is the opinion of students. These express appreciation for the good the service has done them. Mention is made of improvement noted by the instructors of students. Mention is made less frequently of improvement of marks. But chief reliance is placed upon the use of two forms of several reading tests. When one form is given upon entrance and the second at a later appropriate date, a change in performance is noted. From the materials sent us it appears that in college, as in the high school and the elementary school, spectacular results are achieved in many cases, probably those in which the students are bright but have not learned the tricks and mechanics of rapid reading. In some cases the service results in little improvement, but by and large the growth generously justifies the effort in the opinion of the respondents.

SINCE remedial-reading units are developed to care for the poorest readers who seem to need special individual attention, they constitute an extra service beyond that given in regular class instruction. In consequence, the college has to consider the problem of placing them among the established activities in its program. First, one may find a curricular niche for them. The most common niche is as part of a credit course: how to study, freshman English, psychology. Second, they may be independent units in which case they may be conducted by instructors in psychology, English, composition, and speech; by members of the personnel division; or by the department of education which may use graduate students who learn the techniques of teaching remedial reading by practice. Seemingly the director is some one in some department who thinks that something should be done about the poor readers and is ready to do the necessary spade work.

Who should be assigned to the clinic is determined in many ways. The most common method of detecting possible enrollees is some standard reading test which measures speed and comprehension. Other instruments of discovery are standard intelligence scores, high-school ranking, comprehensive examinations, and English proficiency tests. Students are also nominated by co-operating instructors who suspect poor reading ability. Or, students who fail in certain courses may be referred to the unit to be given critical tests. In addition, students may voluntarily take the initiative and ask for the service.

The reading tests which are mentioned by the respondents are the following, the Iowa test being most frequently used:

American Council on Education Co-operative English Test C, Form Q (reading comprehension) published by Cooperative Test Service, 15 Amsterdam Avenue, New York

Cook-Chapman Speed of Reading Test, published by J. B. Lippincott Company

Iowa Silent Reading Tests, published by the World Book Company, Yonkers-on-the-Hudson

Minnesota Reading Examination for College

Students, distributed by the University of Minnesota Press

Minnesota Speed of Reading Test for College Students, distributed by University of Minnesota Press

Nelson-Denny Reading Test, published by Houghton Mifflin and Company

In some institutions only a standard reading test is used, in most institutions several measures are used, all with the object of locating the most needy. The critical scores seem to be determined by the number of students that can be cared for in the unit. If the remedial staff is small, the critical scores in tests are lower; if the staff is ample a higher critical score can be used because more students can be cared for.

When the students flow in from one or several of these sources, the conductor of the unit ordinarily studies them. He is interested to examine the causes of their difficulties to decide whether or not he can be of assistance to them. He collects information from the health records regarding the condition of their eyes. He may use the opthalmoscope, telebinocular, or motion pictures to study eye-movements in puzzling cases. He relates the reading score to the intelligence percentile, and sometimes, if both are low, he rejects the student because limited time can better be spent with those of high percentiles who have low reading scores.

When the groups have been selected the membership runs from 5 to over 300 with the rough middle half lying between 15 and 40. More students actually need help but do not use it because in almost every case, class membership is voluntary. Seemingly conductors feel that an unwilling student gains little from required attendance.

The cost of instruction is ordinarily borne by the institution, perhaps because so few students are involved. In some cases a nominal fee is charged to cover incidental supplies and teaching materials. In a few other cases a charge equal to the per hour tuition for regular courses is applied. Occasionally more substantial fees to cover the total cost of the clinic are charged. In some cases when the unit is placed in a how-to-study course, or a Freshman composition course, those needing remedial attention are segregated into sections without additional cost to the student.

WHEN the group is assembled in the unit, or before admission, diagnosis begins. In fact some diagnosis has been undertaken in many cases before the student is admitted. The conductor checks for physiological difficulties, for mechanical abnormalities in eye-movement, for eye-span and the like. He tests for vocabulary difficulties, for skimming skill, and for ability to organize. In fact, before he finishes the case he has covered most of the pitfalls treated in how-to-study courses.

Obviously such conditions call for individual or individual-group instruction in units variously designated by the conductors as "laboratories," "seminars," "clinics," "workshops"; and by this opinion they indicate the informal, personal character of remedial instruction. Lectures are minimized and used only at psychological moments. Theory is merely a thread which makes practice intelligent.

Since intelligent practice is the basic ingredient of remedial instruction, a wealth of practice material is indicated. In most cases commercial materials are used, and such titles as the following are mentioned:

Better Work Habits in College, Rachel Salisbury, Scott Foresman and Company
College and Life, M. E. Bennett, McGraw-Hill Book Company
Getting the Meaning, W. S. Guiler and J. H. Coleman, J. B. Lippincott Company
How to Read Rapidly and Well, C. G. Wrenn and Luella C. Cole, Stanford University Press
Improvement of Study Habits, E. S. Jones, Airport Publishers
Manual of Reading Exercises for Freshmen, Luella C. Pressey, Ohio State University
Practical Study Aids, C. G. Wrenn, Stanford University Press
Problems in Improvement of Reading in High Schools and Colleges, Ruth Strang and F. C. Rose, Science Press
Studying the Major Subjects, C. C. Crawford, author-publisher, Los Angeles
Study Habits Inventory, C. G. Wrenn and R. B. McKeown, Stanford University Press
Study Type of Reading Exercises, Ruth Strang, Teachers College, Columbia University

Many colleges, however, are experimenting with their own materials as a substitute for commercial exercises while still others are making materials to supplement the printed matter. Copious use is sometimes made of simple reading materials found in *Scholastic*, high-school textbooks, and trade books for adolescents. Still other occasional colleges give all their instruction with materials used currently in other courses.

The length of treatment provided by the clinic varies. In the few cases where credit is given the work seems to last for a semester with one or two class periods a week, and one or two hours of credit. In non-credit participation the central tendency seems to be to keep the student in the clinic until he has caught the idea and is ready to go on under his own direction. However, several colleges conduct the clinic for shorter periods: two hours a week for four weeks, two hours a week for eight weeks, one hour a week for a semester, one hour a week for ten weeks, and four hours a week until convalescent. We found no consensus as to frequency of meeting or length of period.

The attention of teachers' colleges and colleges of education is called to Kansas University and Oregon State College where graduate students or Seniors in education are engaged to assist with clinics for Freshmen and thereby give both reading assistance to underclassmen and practical experience to professional students.

Because the respondents are members of the JOURNAL family we asked them if they would share their experiences and materials with others of the clan. All said they would like to secure information, many said that as novices they had little to share or were not yet ready to send out materials. Consequently, from among the 106 respondents, we have decided to select twenty-four who seem, from the materials submitted, to have built seasoned programs. The name of the respondent follows the name of the institution. Some may be in your neighborhood.

Colgate University, George E. Schlesser
Columbia University, Margaret Martin
Dartmouth College, Robert M. Baer
Duke University, K. B. Watson
State Teachers College, Florence, Alabama, Ray B. Bosler

George Peabody College, Ullin W. Leavell
Hampton Institute, Una B. Elliott
Howard University, Charles H. Thompson
University of Kansas, Bert A. Nash
University of Louisville, Elva Lyon
Marysville College, David M. Buggo
Miami University, W. S. Guiler
University of Minnesota, Frances Triggs, Bryng Bryngelson
Ohio State University, Frances P. Robinson
Oklahoma College for Women, Howard Taylor
University of Oregon, L. K. Shumaker
Oregon State College, Robert R. Reichart
Pennsylvania State College, Emmett A. Betts
University of Pennsylvania, F. M. Garver
Rochester Mechanics Institute, L. L. Jarvie
Stephens College, James C. Stauffacher
Teachers College, Columbia University, Ruth Strang
State College of Washington, A. A. Cleveland
Western Maryland College, Sara E. Smith
Wittenberg College, Maurice J. Neuberg

[Vol. XII, No. 3]

Trends in Higher Education

By HENRY LESTER SMITH

A Restatement of Principles

THE development of higher education in the United States is conditioned by changes and developments which take place both within and without the institutions of learning. Accentuated by the depression and by the increasing tempo of social and economic changes, the impact of external influences upon higher education during the past few years has been unprecedented. And examination of certain aspects of the economic and social changes which have taken place may indicate the nature of their impact upon, and their implications for, the development of American higher education.

Available evidence indicates that the United States is approaching, for the first time in its history, a period in which its population bids fair to become stabilized. Declines in birth rate and in the influx of immigrants because of immigration restrictions are resulting in smaller increments of population increase each year. The influence of the decline in death rate is reflected in a change in the age structure of the population. The average age of the population is advancing, and there is a consequent decline in the quantitative importance of youth as a population element.

The growing tendency of those who are the most competent intellectually, economically, socially, and culturally to refuse to accept parental responsibilities is not only contributing to a stabilization of the size of the population, but is also threatening future social welfare because an increasing proportion of the population comes from the less-favored elements. Inequalities in the distribution of the population, accentuated by differentials in reproduction and in distribution of economic and occupational opportunities due to the concentration of wealth in urban areas, have encouraged an increasing proportion of the population to migrate from the less-privileged to the more-privileged areas.

As a result of this and other changes which cannot be considered here, the family, the church, and the community are exercising a declining influence in national life, while the government, industry, and the school are occupying positions of increasing importance as their influence is extended to cover more phases of individual and social life.

Variations in the control of higher education in the United States are revealed not only by the general nature of the control exercised by many types of agents and agencies,

but also by the many modifications and experiments which they frequently initiate in their attempts to discover more effective methods and procedures for the performance of their work. Recent developments indicate a transition from private to public support of higher education, an increasing centralization of control and support in the state. A widespread consideration of the relationships of the Federal government to education was stimulated by significant changes in Federal activities and policies which were made to cope with conditions created by the depression and which may have important implications for the future. A change has been made in the standards employed by accrediting agencies and in the attitude toward accrediting agencies. Recognition of the problems created has been increased by many and various educational organizations and associations, many of which are limited in purposes, scope, and viewpoint. The number and influence of pressure groups have increased and have been accentuated by the conditions which result from the depression.

A BRIEF review of certain of the aspects of these developments may serve to clarify these generalizations. The transition from private to public support and control of higher education has been encouraged by a number of forces including a decline in institutional income, particularly in the value of endowment and in the income from that endowment; an increase in the amount of tuition fees; discrimination against private institutions in the provision of government grants for buildings, and the like; the competition resulting from the rapid expansion and differentiation of the offerings of state institutions; and the less stringent entrance requirements of some public institutions.

Voluntary accrediting agencies in the United States were originally established through the co-operative action of interested institutions. The purpose was the improvement of educational practices through the formulation, acceptance, and enforcement of certain minimum standards as a prerequisite to membership in the association. The early standards adopted by accrediting agencies were stated in quantitative terms in order that they might be applied uniformly to all institutions. Subsequent developments tended to show that these quantitative standards did not adequately serve the purposes for which they were intended. During the past few years some accrediting agencies, particularly the regional ones, have become increasingly aware of the inadequacies of their standards and have taken a significant step toward the improvement of educational practices through abandoning their former rigid quantitative standards and substituting flexible qualitative ones. These standards through an individualized application, evaluating an institution in terms of its own peculiar objectives, encourage and stimulate institutional initiative and individuality.

The shifts which have taken place in the sources of support for higher education during the past decade have been characterized by an increase in the proportion of institutional

income derived from student fees, from the Federal government, and from private gifts and grants; and a decrease in the proportion of institutional income derived from state and local governmental sources and from endowment income. The increase in student fees has been accompanied by increased provisions for scholarships, loans, and student employment.

There have emerged from recent developments in the support of higher education certain fundamental problems and issues which have far-reaching implications. Shall the student be required to pay an increasing proportion of the cost of his education? What is the proper place of the Federal government in the support of higher education? Is a transition from philanthropic to tax support for higher education desirable? What are the proper spheres of private and public initiative in higher education, and how may educational support be distributed to contribute to the development and maintenance of an effective balance between public and private institutions? These and numerous other questions may be telescoped into three larger and more fundamental questions: What shall be the extent of the support provided by society for higher education? From what sources shall this support be derived, and what shall be the proportional contribution of each of these sources? For what types of educational services shall support be provided, and how shall such support be distributed? These questions merit the serious consideration of all those who are interested in the future of higher education. Upon the answers which are given to these questions will depend the future of higher education.

WHILE a cursory examination of isolated aspects of recent developments in higher education might lead one to conclude that higher education in the United States is dominated by confusion and chaos, a more comprehensive examination reveals the presence of an order and a continuity of development in which several general trends are discernible. There is a substitution of informed opinion tempered by objective evidence and scientific knowledge for purely subjective opinion supported by fancy, prejudice, and emotional circumstance. There is apparent an attempt to synthesize and integrate scientific knowledge and facts as a basis for the improvement and development of the educational program. Educational objectives are being reformulated to meet constantly changing and newly discovered needs. Various instruments, methods, and procedures, as a basis for the more effective realization of educational objectives, are being developed and experimented with. There is a trend toward a continuous and more comprehensive program of appraisal, which emphasizes qualitative evaluation as well as quantitative measurement of many aspects of the educational program as a basis for determining the relative contribution of various instruments, methods, and processes to the attainment of accepted educational objectives. There is a trend toward balancing individual and social resources, needs, and potentialities to

achieve optimum personal and social progress and development with an increasing reliance upon education as an agency for social betterment.

The adaptation of higher education to social needs has been characterized by an increased emphasis upon citizenship training and a broadening of the scope and types of training offered. The educational program has been extended vertically and horizontally to serve a larger clientele. The program and its organization have been modified to meet recognized social needs. The purposes, procedures, and accomplishments have been continually evaluated in terms of criteria revised to accord with an expanding knowledge of educational materials, processes, and needs. Numerous attempts have been made to provide effective adjustments between supply and demand and to adapt training to occupational destination by developing more adequate standards for admission or selection, and providing a more effective program of guidance. This guidance program is to be supported by adequate, accurate data concerning individual and societal resources, potentialities, problems, and needs, and is to be implemented through the intelligent use of accepted guidance procedures and the improvement of the training offered for vocational preparation.

The more adequate understanding of the learning process, made possible by the new knowledge gained through the findings of research and the development and use of a wide variety of scientifically constructed instruments of measurement and evaluation, has resulted in a changed concept of the nature of the individual and the task of education. The new concept recognizes the significance of individual differences and has been reflected in modifications in administrative organization, in the development and acceptance of new criteria for selecting and organizing curricular content, in the individualization of instruction through modifications in organization and procedures, and in the development of programs of guidance with emphasis upon self-analysis and adjustment by the individual.

AMONG the administrative modifications which have made possible more effective provision for the common and peculiar needs of individuals have been the differentiation of the college into upper and lower divisions, the inauguration of the general college, the establishment of the junior college, the provision of differentiated and specialized administrative services, illustrations of which are the health and guidance services, changes in curricular offerings, and innovations and modifications in instructional organization. In the selection and organization of curricular materials there has been a transition from an emphasis upon content and logical organization dictated by the authoritarian judgment of subject-matter specialists to an emphasis upon enriched experiences and functional organization based upon student needs as revealed through research. Instruction has been individualized through a wide variety of plans and procedures, which have included sectioning classes upon the basis of student abilities, pro-

viding non-credit courses for those who are not ready for the regular courses, arranging honors courses for those of recognized ability, inaugurating independent study plans designed to stimulate individual initiative and the acceptance of responsibility, establishing colleges with programs adapted to meet a wide variety of individual needs, and developing a better understanding on the part of the instructors of the individual needs of students. These needs have been revealed through research findings and have resulted in the instructor's adapting instructional materials and procedures to recognized individual needs, regardless of the type of instructional organization provided. The agencies provided for the initiation, administration, and development of programs of guidance have served to co-ordinate the collection, compilation, interpretation, and dissemination of information concerning the weaknesses and potentialities of the individual student and concerning educational and vocational opportunities. This information is an essential prerequisite to intelligent self-appraisal and optimal adjustment on the part of the student to educational, vocational, social, and civic opportunities and enables the members of the administrative and instructional staffs, the parents, the employer, or the prospective employer to secure a more adequate understanding of the individual and his problems and thereby more effectively to assist him in making intelligent choices.

The transition in the statement of educational aims and objectives from intangible, indefinite, general terms to the tangible, definite, specific terms and the selection and organization of curricular materials upon the basis of these specifically stated objectives have made possible a critical analysis and evaluation of the outcomes of instruction, which are reflected in numerous and frequent improvements in curricular materials and procedures. An increasing recognition of the importance of a careful, scientific study of the human and material circumstances which condition education as a basis for the selection and organization of curricular materials is reflected in the substitution of a psychological for a logical approach with an emphasis upon individual and social needs, upon the importance of adjustment to social change, upon the development of the entire personality, upon student activity, upon direct rather than vicarious experience, upon the establishment of courses which relate to contemporary living, and upon the utilization of the unique advantages offered by the particular locale in which education takes place.

IN THE attempts which have been made to improve instruction experimentation has had its place. It has been characterized by a search for the most effective combination of methods and procedures consistent with accepted educational objectives, available financial support, the peculiar needs of the students, and the environmental circumstances conditioning the educational process. To experimentation with all possible types of combinations of the traditional

lecture, recitation, laboratory, and seminar methods of instruction, with investigations dealing with class size and the grouping of students upon the basis of their abilities, there has been added experimentation with honors courses, independent study plans, tutorial methods, preceptoral methods, non-credit courses, general-college programs, co-operative plans with industry, plans for combining travel and study both at home and abroad, and various types of adult or extra-mural education.

While recent economic, social, political, and educational developments have been characterized by numerous attempts to achieve an effective balancing of these contrasting aspects, current developments may be more accurately described as a swing from an unprecedented emphasis upon analysis, differentiation, and specialization, which have characterized the developments of the past half-century, to an increasing emphasis upon synthesis and integration and a tendency toward centralization. This change has been accompanied, however, by a vigorous defense of decentralization as a means of preserving individual and local initiative and by bitter protests against, and grave fears of, the possible disastrous effects of highly centralized control.

The development of an economic and social order composed of a multitude of highly differentiated and specialized groups whose interests are circumscribed and specialized but whose welfare is dependent upon a proper balancing of the interests, efforts, and resources of all of these groups has produced economic and social problems of unprecedented magnitude and complexity, which present an imperative challenge to our economic, social, political, and educational leadership and imply a necessity for co-operative, rather than independent, planning and action. Current economic, social, and political developments reveal a tendency toward an integration and synthesis of interests, purposes, and activities through co-operative action.

THE impact of these economic, social, and political developments and the reaction against the impersonalization, specialization, and opportunistic distribution and development of higher education—with their resulting neglect of individual and group needs, combined with an increased knowledge of the individual and the learning process made possible through the contributions of research—are reflected in an increasing emphasis upon integration and synthesis which has permeated recent developments in practically all phases of higher education. This integration and synthesis have resulted from a large variety of co-operative efforts, some of which have been compulsory but most of which have been voluntary. Integration and synthesis have been attempted through modifications in purposes, content, methods, and organization, which have varied widely in scope and extent and which have been made possible through an expression of the interests and efforts of members of the profession on an individual, departmental, divisional, institutional, state, regional, and national basis. While it is generally

agreed that an integration of the work of higher education is both desirable and essential, there is a considerable diversity of opinion concerning the proper basis for achieving this. The bases which have been suggested for its achievement are not mutually exclusive but overlapping. Among the suggested bases for the achievement of integration have been medieval scholasticism, metaphysics, religion, universal truths, the great books of all ages, subject-matter, training for citizenship and honest public service, individual and personal problems and needs, individual-social relationships, and individual-environmental relationships.

A few selected illustrations may indicate the nature of the developments which are resulting in a more effective integration and synthesis of the work of higher education and may supplement the illustrations already given. It seems probable that the creation and establishment of the Educational Policies Commission—a national, representative, professional agency for the purpose of defining and implementing principles to guide education in the United States—may prove to be the most significant development in the integration of educational aims and purposes. Through the definition of guiding principles for education in the United States, which reflect the informed and expert judgment of the members of the Commission, the more than twenty-four hundred consultants at work in the field, and other experts in particular divisions of education; through the publications of its pronouncements of educational policy which embody these guiding principles; through the implementation of these principles and policies by the distribution of its pronouncements, the sponsoring of conferences, and the establishment of state and local educational commissions on educational policy, which discuss the Commission's pronouncements in the hope that they may be intelligently adapted to local needs and may stimulate redefinition and formulation of educational policies for these state and local educational units—the Educational Policies Commission is making a significant contribution to the improvement of American educational theory and practice. The modifications which have been made in curricular content and organization have included the establishment of general courses, resulting from a resynthesis of knowledge around general concepts which cut across subject-matter fields, and the establishment of survey courses which have presented an overview of a large field of knowledge integrated, it is true, but given in terms of the traditional, logical, systematic organization of subject-matter. The organization of the general college has represented an integration of educational purposes, content, methods, and procedures in terms of individual and social needs.

Science Teaching at Bennington College

By ROBERT H. WOODWORTH

Introductory Science Is Given in a Single Unit Called the Science Workshop

THERE is enough inquiry concerning the work in science at Bennington College to make it worth while to prepare a statement which may serve as a partial reply. This report deals with the question most often raised and concerns primarily the teaching of introductory science.

Some of the guiding principles which are involved in all science teaching at Bennington are important to our discussion. The belief predominates that science teaching must be educational rather than merely imparting technicalities or training for a job. Material is adapted to the needs and capacities of individuals and is so planned as to give direction toward continuous development of power. The conviction that the mastery of intricate and laborious technique, although often necessary, is less important than the attempt to approach the truth easily and completely pervades all instruction. The replacement of what claims to be the absolute by probability and the endeavor to measure the probability are common practices. A thorough criticism of the foundations of science is made. Our responsibility in assisting the student in developing an independent philosophy of life is accepted.

The attitude of the instructor toward the student is primarily one of friendly understanding. Contrary to a popular belief, however, self-expression is not necessarily encouraged more than self-restraint.

By great good fortune this college is small enough so that it has not been necessary to departmentalize the scientific work; therefore it has been possible to offer for those students who plan to continue in science a single unit of instruction called science workshop instead of offering separate introductory courses in the several sciences. The content of the workshop course is designed to acquaint the student with main scientific facts and theories, the experimental method, and the scientific attitude through a working understanding of the fundamental concepts of physics, chemistry, and biology. This serves as a preparation for project work. Science workshop occupies half the student's program time for the freshman year which is a minimum of twenty hours a week including classroom, laboratory, and study time. Physics and chemistry constitute the subject-matter for

the first semester. In the second semester half of the workshop time is devoted to biology; the remaining time is divided about equally between physics and chemistry.

The biological part of workshop is distinctly different from the traditional introductory course. Our students are more interested in the physiological approach. Incidentally, most of them have studied biology in school, and preparatory-school work in biology has improved so much in the last decade, due to better-trained teachers and their continued study in university summer sessions, that we do not find it advisable for our students to repeat introductory biology. Moreover, the taxonomic and morphological concepts of biology will be explored in detail in advanced study of botany and zoölogy. It has been found more satisfactory to offer what is called the protoplasm course as the biological part of workshop.

In the protoplasm course we point the work to an analysis of protoplasmic systems and their products by using the chemical and physical principles studied in the other parts of workshop. This gives an excellent opportunity to emphasize the latter material by applying it and has the time-saving feature of using this information while it is fresh in the student's experience without the necessity for review. In certain respects this work is similar to the college course known as general physiology; however, there is a great deal of individual laboratory study and the material is so planned as to include considerable structural detail along with the functional so that the student will get a more comprehensive picture of the whole process.

In arranging the order of topics to be studied in workshop, every effort is made to treat each subject as a functional whole rather than as a separate principle of a certain department of science. Therefore, as opportunity affords, reference is made to the application of material being discussed to other fields in order to emphasize the interdependence of the several sciences. The students will encounter this in a practical way when they begin project work, and the attempt is to anticipate it in workshop. This is readily seen in the arrangement of some of the subject-matter of the workshop program: physics of sound and the physiology of the ear; physics of light, physiology of the eye, and the physics and chemistry of photography including color processes; chemical, physical, and biological aspects of the periodic table; physical, chemical, and biological aspects of surface phenomena; gas laws and respiration; electrostatics and colloidal behavior; electrical potential and nerve action; electrical circuits, ionization, conductivity, electrical potential, bio-electric potential; catalysts, oxidation-reduction systems, enzymes; gas laws, kinetic theory, solution laws, osmotic phenomena; physical and chemical aspects of fibrous structure and its biological significance.

WE HAVE found it more stimulating for both instructors and students to devote the class meetings, not to lecture, but to discussion of information already studied in textbooks and reference books and to its

application in experimental work. Our main concern is how to get information, how to evaluate it, and how to use it. Instead of requiring each student to do standard laboratory experiments we often make a class attack on some larger problem, each student or pair of students designing and carrying out an experiment to test a single phase of the subject being explored. At the next group meeting all results are presented, errors discussed, and the several experiments may be fitted together into a general expression. In the regular weekly conference which each student has with a member of the science faculty, the counselor, there is opportunity for further discussion of any points having to do with subject-matter or its application.

This workshop arrangement for introductory science is important because during the following three years the student ordinarily spends at least one-quarter of the program time working on an individual project. Usually it is more advantageous for a person doing experimental work to be acquainted with the fundamentals of physics, chemistry, and biology than it is to have had preliminary work in only one or two of these fields. We find that even though the student has had a limited experience in science the sophomore project, if carefully selected, is challenging and productive. The students are enthusiastic and they turn out some good results. A list of some of the recent projects is appended. One of the reasons that each student engages in a project during at least one semester of the sophomore year is that promotion from the junior division, the first two years, to the senior division, the last two years, is dependent upon demonstration of the student's ability to do sustained independent work.

Our experience indicates that the workshop plan has some additional advantage over the arrangement of college science courses wherein the student concentrates in one of the departments of science and does not find it convenient or necessary to study introductions to other sciences until the last two college years. For example, it often comes about that a student in biology may begin the study of chemistry early in the college program but postpones the study of physics until the junior or senior year, thus missing the advantage of working into the developing understanding of living systems important physical concepts which are so useful and necessary in studying organisms.

Some of the attitudes which we aim to encourage in the student are: a consciousness of the inertia of superstition, ignorance, and nonsense; an awareness of how much emotion and purpose accompany any particular bit of knowledge; the ability to understand another's beliefs and practices without necessarily sharing or accepting them; the postponement of immediate action on impulse, until observation, information, and judgment have intervened; the ability to deal intelligently with any idea whether it be new, generally accepted by competent persons, or outworn; an appreciation for the danger involved in being satisfied with current abstractions; a reasonable definition of "the truth"; a balanced growth of individ-

uality and the creation of power of intelligent self-control; an appreciation of the idea that knowledge is not nearly as important as one's constant endeavor to obtain it.

PROJECTS[1]

SOPHOMORE—
Measurement of bio-electric potential with potentiometer and hydrogen and calomel electrodes, including setting up the cells and the circuit
Effect of antuitrin on reproduction in frogs
Laboratory culture of slime mold—effect of changing environmental conditions
Oxidation-reduction systems in organisms
Plant nutrition—elements essential to growth
Liquid crystals—preparation and characteristics
Preparation and study of thixotropic colloids
Tissue culture—in vitro
Chemistry of plant gums
Comparative study of vertebrate skeletons, including their preparation
Linkage in *Drosophila*—identification of two new mutations (one of them found by this student) in the sex chromosome pair
Study of why an unexpected phenotype of fly (*Drosophila*) emerged from moire x brown matings
Search for a simple and reliable method of detecting the lead content of maple syrup
Velocity of reactions at different enzyme concentrations
The reducing action of ascorbic acid (vitamin C)
Survey of local algal flora
Survey of local moss flora
Survey of local fern flora
Survey of local woody plant flora
Identification of bacteria in local river
Effect of temperature on pigment formation in *Serratia marcesens*
Effect of various methods of treating willow and poplar cuttings with auxin
Study of life history and specific determination of a water mold from the Canal Zone
Study of spectra including the construction of a condensed discharge light source
Embryology of a lethal fish hybrid
Genetic study of mice
Synthesis of certain drugs
Study of local weather conditions

JUNIOR—
Effect of various wave lengths and intensities of light on growth and reproduction of algae
Plant growth substances and the measurement of their effect
The chemical nature of the pigment of *Physarum polycephalum* (slime mold)
Germination of moss spores, including the effect of auxin, and cultivation of protonema in different nutrients and at different pH levels
Tissue culture—in vitro
Drosophila salivary glands—preparation of slides and mapping of chromosomes
Design and construction of a time-lapsing circuit using vacuum tubes and relays for motion photomicrography
Measurement of wave length of various spectral lines
Extraction of enzymes and hormones
Growth and life history of Panamanian myxomycete

SENIOR—
Blood sugar level in normal and cancerous rats
Photomicrography, including the design and construction of camera
Pituitary metabolism*
Bacterial metabolism—oxygen consumption and carbon dioxide production of Serratia marcesens with glucose and fructose media, including design and construction of respiration apparatus
Electroencephalography*
Use of phytin (an organic phosphate) in bacterial nutrition
The design of a course in useful mathematics
Change in number of human erythrocytes (red cells) under varying conditions
The sulfonamide derivatives and their use in the treatment of scarlet fever*
Electrophoresis of ragweed protein using moving boundary technique (including electroendosmosis of the pollen extract through the skin)
Preparation of organic developers (photographic) in the phenylenediamine series to be used for comparative developing tests
Modern atomic theory and its historical development
Germination and growth of fern spores in media buffered at different pH levels, including the effect of auxin
Studies on the respiration (Warburg apparatus) and growth of yeast and oat seedlings including the effect of auxin
Symbiotic nitrogen fixation including the effect of oxalacetic acid on assimilation of nitrogen by nodules
Relative importance of the several senses in maze learning
Study of student attitudes toward health
Agglutination of mixed red cell types in human blood
Cinematographic study by time lapse of growth and development of mosses
Effect of colchicine on chromosome number in beans and peas
Study of a position effect in *Drosophila*
Quantitative studies in biochemistry of blood
Vernalization in tomato plants by media control
Design and construction of a vacuum tube feed back microammeter
Design and construction of a vacuum tube and relay thermoregulator

[1]All projects, except the five marked by an asterisk (*), consisted primarily of laboratory study.

A Plan for the Ph. D. in English

By PAUL E. REYNOLDS

Emphasis on a Sound Knowledge of Literature as the Core

THE Ph.D. is the most scholastically significant of the many kinds of degrees which may be earned at American universities, but no degree has caused more dissatisfaction. The expense, the time required for research, and the low income which awaits its possessors are the *leit motiv* of conversation at many a faculty club. The degree is indispensable to academic advancement, though not to scholarly achievement, but the training it provides has satisfied completely neither the young scholars who labor to get it nor the administrators who hire them.

In the field of English the tedious conditions of doctoral training and especially the intellectual results of such training have produced a general, though not too audible, muttering of dissent. And aside from a few growls about German linguistics, most of the protest has been directed against the thesis. The young men and women who are invested with the academic pallium in English feel both relieved and regretful—relieved that their four or five years of graduate servitude are over and regretful that most of the period was spent in writing a biography of William Motherwell or a dissertation on the influence of Catullus on John Skelton. In no other subject, indeed, are there so many *ex post facto* conscientious objectors, for until the degree has been won criticism of the Ph.D. system must perforce be silent or at least inaudible to graduate professors. Nevertheless, dissatisfaction with the requirements of the thesis seems so widespread that a statement of the chief objections against it and a proposal for a new kind of doctorate in English can hardly seem untimely.

Criticism of the thesis is twofold. First, dealing as it usually does with some relatively unimportant aspect of English literature, it results in distortion of perspective. This distortion is all the more intellectually dangerous because it is unconscious. A graduate student who sits down for three years to slave away at a thesis on Ebenezer Elliott, for instance, gradually comes to view literary history in terms of the minor poetry of the nineteenth century. He searches diligently through Sheffield newspapers and writes letters asking biographical information of the descendants of Elliott; he consults topographical works on Yorkshire so that he may identify the localities and the legends mentioned in Elliott's verse. Meanwhile the candidate has forgotten the "Nun's Priest's Tale,"

the psychology of *Hamlet*, and the characters in *Tom Jones*. The important is sacrificed for the unimportant.

The situation is complicated by the fact that the increase in the number of doctoral candidates in the past two decades has made the choice of fruitful subjects for theses difficult. Since a thesis must represent original research, scholars seeking the beatific state of the Ph.D. have been compelled to resurrect obscure versifiers or to investigate some minor phase of a great writer's career, as criticism of Shelley in Irish newspapers. Thus, the doctoral candidate, instead of having to invent a better mousetrap, must disinter the mouse.

THE excessive amount of time spent on the thesis prevents a wide and sound knowledge of literature, English and foreign. Among a representative group of a thousand doctors one would find authorities on the political views of John Capgrave, the genealogy of Bartholomew Griffin, or the uncollected writings of Robert Lloyd, but, at a reasonable guess, not twenty of them would have read the *Confessions* of St. Augustine, even in translation, the complete works of Shakespeare, all the poems of Keats, or the *Divine Comedy*. It is true that the prospect of a rigid oral examination compels the candidate to review the whole field of English and related literatures, but since time treads hard on his heels, he relies on superficial cramming of lecture notes and various literary histories. Consequently, he has information rather than knowledge. He can give dates, cite titles, and supply biographical facts about poets, novelists, dramatists, and critics, but he has read little of the poetry, few of the novels and the dramas, and almost nothing of the criticism. He knows, for instance, that in the *Prelude* Wordsworth attempts to trace out the spiritual background of his poetry, but he has not read the *Prelude*. During the time when he might have been reading it, or other works of equal importance, he has been amassing three-by-five cards on literary problems of much less moment.

Superficiality of scholarship, however, is not the only bad result of this preoccupation with minor problems of research. The young doctor is actually handicapped in his chosen career of teaching. For the majority of doctors of philosophy must become and remain teachers; they must spend their lives in explaining poetry and the drama and the novel to undergraduates. The young man or woman armed with a Ph.D. in English secures a position which involves the exposition of literature in the classroom. For this difficult task not information alone but understanding is the desideratum. Yet the present system of graduate study trains research workers rather than teachers, as if the student were to have full opportunity to continue his investigation after the degree is won. The opportunities for research, however, are limited; many college libraries are not equipped for scholarly investigation, and teaching-loads are heavier than in the past.

Such, then, is the dilemma of the doctorate in English. Is there a solution for it? Is there any way by which the knowledge of great liter-

ature can be invincibly fixed in a central position in the discipline of the graduate school?

The answer to these questions is yes, if a radical shift in emphasis can be accomplished, a shift which would reduce research to a secondary position in graduate training. It seems to the writer that one possible means of creating this new emphasis is to provide a three- or four-year plan of intensive reading in English language and literature, with subsidiary reading in French, German, and Latin. Except for the first year, courses as time-units involving credits could be abolished, since for the advanced student they are a handicap rather than an advantage. The progress of each student in his reading could be measured by examinations at appropriate intervals throughout the four years, but since examinations are even less reliable as yardsticks of progress for graduate students than for undergraduates, these checkups should not be given oftener than once a year. The four years of exhaustive reading might be climaxed by the same type of oral or written inquisition as is in use now. Informal study and discussion groups could bring the graduate students together for exchange of ideas. Such a plan, of course, would retain the advanced seminar, where graduate students can work in close relation with prominent scholars.

Nor would the study of linguistics be abolished. A student who expects to become a professional scholar in literature should certainly know something of the history and the structure of language. Consequently, the usual courses in Anglo-Saxon and Middle English would be required; the former, as a matter of fact, is nearly always a part of the work for the Master of Arts, and therefore Middle English should be a required course for the first year of our proposed program. In addition, lectures in the history of the Germanic languages should be given. A fresh approach is necessary here, however, for the student whose major interest is literature. Ordinarily Germanic linguistics is taught as a series of problems in morphology and phonology, but this method is really fruitful only for those rare students who are talented and courageous enough to follow in the footsteps of Brugmann, Rask, and Prokosch. For the majority of doctoral candidates in English the approach should be rather that of Jespersen in *Language*. The psychology and the social aspects of linguistics should be stressed. If a student is interested in the relations between Shelley and Byron, it seems futile to ask him to learn and understand the permutations of the *a*-vowel through the Germanic languages.

WHAT becomes of the sacred institution of the thesis? Can it, indeed, be adjusted at all to a program based on exhaustive reading? Now the conclusion is inescapable that a thesis, as a book-length product of research, has no place in the plan proposed. In its stead a required number of reports, like those now usual in graduate courses, would be written on subjects suggested by the reading. There is no reason to suppose that a student needs to write a

treatise of one hundred thousand words in order to learn the technique of literary research. Skill in the discovery of facts, judgment in the interpretation of those facts, intelligence in perceiving the relationships among data, and lucidity in discussion can be developed by reports of much briefer length and scope. The reader must not imagine, of course, that the program which I have outlined is intended to do away with literary research; it is merely designed to displace the thesis from the dominant position it now occupies in the preparation for the doctorate in English. Scholarship is so profoundly important that no sane person would think of excluding a study of its technique from graduate preparation for a degree in literature or in any other field; but in literary scholarship, one must agree, research is relatively less imperative than in some other departments of learning, for the scholar in literature depends in great measure upon the possession of a body of traditional knowledge. His graduate training should center about this traditional knowledge and should only secondarily contribute to its enlargement.

Neglected Values in Higher Education

By W. D. ARMENTROUT

Needed Reorganization in Curricular and Extra-Curricular Activities to Provide Significant Experiences

THERE is a general agreement among competent observers that higher education is entering upon an era of transition and perhaps profound transformation. In this period the educator must have a definite sense of the direction in which he wants to move. He controls and judges the educative process by constant reference to the direction in which he thinks education should go. If this is not done consciously and critically, then it will be done unconsciously and blindly.

What sort of person do we want when we seek an educated person? What kinds of interests, attitudes, and abilities have we a right to expect an educated person to exhibit today? These questions, like all fundamental ones, are not supplied with fixed ready-made answers and rules that we can adopt as a whole, understand immediately, and follow in a routine fashion. Rather we must choose between studying values or drifting along without ever really facing the problem.

There is an insistent demand on the part of educators, students, and laymen for more adequate attention to the fact that intellectual development should not be isolated from the development of the whole personality. In the reorganization of higher education more attention must be paid to the fact that the college student is not an isolated mind but a total personality. Intellectual development should not be isolated from the development of the whole personality. In addition to intellectual factors, personal growth depends upon physical, emotional, aesthetic, and moral factors as well. We must think of the student in terms of his health, intellectual interests, recreational habits, aesthetic tastes, integrity of character, ability to co-operate, and capacity to grow.

Too many of our curricular activities rest upon assumptions of the ancient philosopher. The ancients gave to man the name *animal.* The name stood for a material and organic structure informed with life and made active by immaterial spirit—*anima.* This body as they saw it served as vessel and instrument for a mental entity which governed its behavior and through that behavior gave expression to the essential reality—a man. Modern scientists and philos-

ophers still hold with the ancients that man is an animal, but they incline to the notion that mind and body in this world, at least, must be regarded as aspects of one and the same thing.

Man is not part mind and part body in the sense that a centaur is half man and half horse. A man as we can know him is a psychophysical organism. The significant thing in the situation is the whole organism and not the parts of which it is composed.

It is difficult to see college life steadily and see it whole. The athletic coach, the classroom instructor, the librarian, the research worker—each views education from the narrow viewpoint of his specialty. Too often the gymnasium is dedicated to brawn and physical welfare, the classroom is to take care of brain and mental welfare, and the religious appendages are supposed to look after the soul and spiritual welfare. In this pigeonhole view of things the student as a personality is lost sight of. Can we develop a comprehensive view of college education instead of a compartmentalized view? Can we emphasize the various values of college life without any of them being subordinated or excluded?

MODERN psychologists no longer accept a faculty psychology which pictured mind as an entity or substance. Under this scheme of things the aim of education was to exercise the mind. Since the mind was composed of separate parts our curriculums were arranged in isolated compartments. The curriculum was effective just to the extent that subjects were selected with reference primarily to their value for the development of the various mental faculties. Mathematics was included in the curriculum for training in reasoning, a subject like literature for training in appreciation, and courses in the sciences for training in observation. Foreign languages were good for the memory. If the student took enough of these different subjects, the various faculties would be strengthened and hence his mind would be fully developed. There are some people who still believe that all we need is a "trained mind," who believe that there is a certain magical quality peculiar to some subjects, and that the student who has labored at mental tasks for a period of time "will emerge from the educational cocoon trained in mind and able to face the problems of life."

Growing familiarity with scientific research in psychology and education has made an increasing number of people realize that this is a vain hope. To think of mind as a metaphysical psyche possessing superior powers is now just a habit of thought—a habit not to be encouraged by those devoted to the methods of science, and yet many of our present academic practices are based on this conception of mind. The best thought of the day explains mind as a type of behavior involving ordered planning and conscious control, a behavior guided by meanings. It includes also those impulses, interests, and purposive strivings which give to life its zest and meaning. Mind is the characteristic activity of a highly complex and highly integrated human organism, including artistic creations, religious

aspirations, and ethical attitudes as well as intellectual achievement.

Some of our critics are telling us that both the New York State Regents' Inquiry and the Carnegie Foundation's report on the Pennsylvania schools bear out the theory that we are now educating the wrong people in college. May it not be that we are giving many of the people in college the wrong kind of education? We are suffering today from many of the errors of abstract intellectualism—the sort of intellectualism that Thomas Mann describes where thinking goes on without reference to reality, in pure abstraction, in complete isolation of the mind from life itself, and without the slightest consideration for the realistic consequences of thought. The conventional college curriculum is the typical counterpart of the philosophical doctrine that all significant experience is a form of knowing. In view of the million and a quarter students in our colleges, it is easy for college instructors to agree with Ezra Pound that "real education must ultimately be limited to men who insist on knowing; the rest is mere sheepherding." But this does not face the problem. The cognitive experience is not the only form of experience. Desire, preference, seeking, and avoiding are basic qualities in all experience. We must develop a clearer understanding of the relation between intellect and emotion so that they may complement rather than antagonize each other. John Dewey tells us that,

> the separation of warm emotion and cool intelligence is the great moral tragedy. This division is perpetuated by those who deprecate science and foresight in behalf of affection as it is by those who in the name of an idol labeled reason would quench passion. The intellect is always inspired by some impulse.[1]

FEELING and thought are inherently connected in every realm of experience. The real business of thought is not to oppose our desires but rather to reconstruct and reorganize them. What is wanted is that desire and enthusiasm, preference, and bias may become more intelligent. Thinking should become the process by which our desires find a more meaningful and unified manner of expression. T. V. Smith reminds us that

> a large part of our life is carried on in the realm of meanings to which truth and falsity as such are irrelevant. The realm of meanings is wider than that of true-false meanings. Here are included our loves and hates, our friendships and our animosities; here too are the fine arts; here the dumb gladness that welcomes the dawn, the quiet contemplation of the sun's trailing glory at eventide, and the silent watching of the night. This is the good in itself from which reflection arises and for the sake of which reflection exists as an instrument.[2]

We need to recognize that in the educative process there is a diversity of values, which in proper combination make the process broad and well-balanced. Information, skills, principles, and relationships, attitudes, interests, emotional sets, and ideals are all acquired in one and the same learning process, and we should

[1] *Human Nature and Conduct.* New York: Henry Holt and Company, 1922. p. 258.

[2] *The Philosophic Way of Life.* Chicago: University of Chicago Press, 1929. p. 118.

think of all of them as significant aspects of behavior. It is not primarily a question of which one is the most important. Institutions of higher education must assume responsibility for the total learnings which grow out of specific institutional practices. This means they must assume responsibility for emotional and ethical as well as purely academic results.

That all the outcomes of learning cannot be measured objectively is no reason for neglecting them. Colleges need more and more to recognize the values and assume responsibility for those outcomes which are difficult to measure objectively. Adequate evaluation of the outcomes of higher education is not to be found in tests merely because they meet certain technical requirements, such as "objectivity" and "adequate sampling." We must consider whether or not our tests are in harmony with the educational program we wish to promote. If attention is focused only on those outcomes that are being evaluated at the present time, we cannot expect to produce a well-balanced personality. A successful life is dependent upon more than academic attitudes—artistic, social, moral, and ethical attitudes are just as important. Social intelligence is just as essential in the make-up of a person as academic intelligence.

There is a real danger in assuming that ethical attitudes, emotional stability, and social intelligence are too general in scope to carry any definite meaning in the educative process. This attitude results in faculty interest primarily in teaching subjects. Advisory programs become routinized. Little time is devoted to ascertaining the problems, abilities, and interests of individual students. Educational development is measured only by marks, and an adding machine has to be consulted to discover when a student has completed his education.

No one would be so bold as to say that the only valuable outcomes of learning are those which can be statistically expressed. To stop there would be a violation of the scientific attitude. Learning and teaching, like other fields of scientific study, involve a multitude of as yet unidentified items and elements. We must discover and utilize additional methods of observing, recording, and transmitting if we are to realize the significance of an educative process. A crude estimate of a student's status in relation to our central objectives may be of greater value in judging him and in improving the educational effort in his behalf than would be a highly reliable measure of a trait which in itself has little significance for an integrated personality.

TOO few college teachers are interested in the student as a total personality. Close personal relations between students and teachers do not exist to any large extent. Many classes are too large to do even a good job of herding, to say nothing of teaching. Faculty members are too busy to be interested in their students. Increases in salary and elevations in rank are too seldom determined by artistic teaching and personal guidance. All this makes for an impersonal point of view on the part of college faculties.

President Cowley, of Hamilton College, in analyzing European influences upon American higher education, tells us that in the latter part of the nineteenth century the German philosophy of higher education, which asserted that the responsibility of education related to the training of the student's mind, dominated our American colleges. The German professor had no interest in the student as a person. What he did with his time outside of class hours, or indeed between matriculation and final examinations, no official of the German university knew or cared. In 1886 Harvard, under the leadership of Eliot, adopted this continental philosophy of student life. Attendance at classes was no longer required of Juniors and Seniors, and they were required to pass only course examinations. What the student did with his time between registration at the beginning of the year and final examinations at the end, no one cared. Impersonalism set in with a vengance and has been constantly growing in most American colleges. President Cowley continues this argument:

> In the judgment of many American educators, the rise of athleticism and the strong grip which so-called extra-curricular activities have upon American college students may be ascribed to this German-born impersonalism. The statement is frankly controversial, but it is significant to observe that intercollegiate athletics and [other] huge extra-curricular activities . . . began to grow to their present large stature at the time that impersonalism came to control the thinking of college faculties. With some justice the statement is made that students, finding faculty members engrossed in research, and being little interested in research enterprises themselves, set up their own student life giving play to their own systems of values.[3]

It is needless to review the defects of our programs of intercollegiate athletics, fraternity life, and leisure-time activities of college students. These activities have great potential educational values. We should revamp and reorganize them so that they make a more positive contribution to the objectives of college education.

THE twin demons that make many of our academic activities miseducative are intellectualism and impersonalism. How many students are rendered callous to ideas and how many lose the impetus and desire to learn because of the meaningless way in which their learning is experienced? How many come to associate books with drudgery and are thus conditioned against all but flashy reading matter? How many come to associate studying with ennui and boredom? How many find that what they learn is so foreign to the situations of life outside the classroom that it gives them no power of control over life situations? How many academic activities make college a sort of interlude in life separated from what goes before and disconnected from what follows? How many students are acquiring habits and attitudes of deceit, dishonesty, and just getting by? These questions are asked not to condemn conventional college education, but rather to emphasize the difference between experiences which

[3] "European Influences upon American Higher Education," *Educational Record*, XX (April, 1939), pp. 184–85.

are educative and those which are miseducative.

Any experience involved in curricular or extra-curricular activities is miseducative if it has the effect of arresting or distorting the growth of further desirable experiences. For example, a given experience may increase a person's automatic skill in a particular direction and yet land him in a rut. The result is to narrow the field of further experience. An experience may be immediately enjoyable as many extra-curricular activities are and yet promote the formation of deceitful, artificial, clever, and careless attitudes. These attitudes then operate to modify the quality of subsequent experiences so as to prevent a person from getting out of them the best they have to give. Experiences may be so disconnected from one another that, while each is agreeable, they are not linked cumulatively to one another, energy is dissipated, and the student becomes "scatterbrained."

Everything depends upon the quality of experience. John Dewey tells us that the quality of an experience has two aspects, one immediate and the other deferred or remote. The immediate aspect is one of agreeableness or disagreeableness, and is easy and simple to judge. The deferred aspect is the influence upon later experiences, which is not so obvious and easy to judge. The criterion may be stated in the question, Does a given experience promote having desirable subsequent experiences? An experience has been educative when the learner has grown in outlooks and insights, in attitudes and appreciations; when he sees more possibilities and more significances than he saw before; when he recognizes new things to value and old things to value in new ways; when he can apply old meanings in new situations. Dewey's definition of education may be stated at this point. Education is the reconstruction and reorganization of experience which adds to the meaning of experience and increases ability to direct its subsequent course.

It is the duty of educators in institutions of higher education to organize and arrange the curricular and extra-curricular activities so that they provide the kind of experiences which do not repel the student, but rather engage his activities in a wholehearted way; experiences which are more than immediately enjoyable, experiences which have real meanings for the learner and promote desirable future experiences. No school is adequately organized to accomplish real educational ends unless the learner has varied, vital, and genuine experiences calculated to give him an understanding of himself and the nature of the world in which he lives.

War and the Woman's College

By MARY E. MURPHY

Suggestions Pertinent to the Present World Crises

A WAR challenges existing institutions in belligerent and non-belligerant nations, tests their adaptability to rapidly changing circumstances, and examines their adoption of war measures.

In periods of agitation, women's colleges uphold their traditional ideals and continue to foster the spirit of investigation. Their responsibility of providing the nation with informed and trained individuals continues undiminished and postwar generations are assured their intellectual heritage. College graduates will be called upon to repair the damages inflicted upon economic and political systems; they will be urged to reconstruct a new world on the foundations of the old. To reconstruction, a college-trained mind brings an awakened intellect, an impartial analysis, a sensitive consideration of human issues, an appreciation of the factors involved, and the creative forces necessary for the establishment of a new world order.

It is in time of war that colleges must make active and rapid response to national needs; they must maintain their high standards and increase their scope of activity. This premise receives exemplification in Britain where universities, in spite of evacuation and depletion of staffs and students, offer the essentials of a higher education, provide research facilities for students, recreation and lectures for troops, and fight against stagnation of intellectual endeavors. They are seeking to substitute for ignorance, intelligence and critical inquiry; they are nourishing freedom and love of truth in the youth of the nation; they are providing society with trained individuals who can assume places of responsibility during war and postwar periods. They have re-examined their equipment and faculties, and are utilizing their resources, material and personnel, in the most prudent way so that all functions and branches of university learning are co-ordinated into an effective pattern.

In contrast to the active status of British higher education we find in American women's college a certain amount of lethargy. Their very aloofness from the world, which promotes research and study, at the same time lends itself to miscomprehension of or disinterest in national and international issues. Much of the present college inertia regarding the European situation is based upon ignorance of the facts; inaccuracies in students' thinking have led them

to believe that the war does not concern this nation, their families, or themselves. Yet posts left vacant by men conscripted in future months must in many instances be filled by college-trained women. The proper staffing of government departments, the maintenance of Red Cross offices and canteens, the functioning of banks, business houses, laboratories, and institutions throughout the United States will depend, to an ever increasing degree, upon the activities and efficiencies of women.

British women, irrespective of their station in life, have met the challenge of war. They have cut themselves off from their femininities and have succeeded, by donning an overall or uniform, in becoming efficient personalities. The war has meant for them the assumption of unfamiliar activities. They are serving as bus conductors, cooks, clerks, signalers, airplane cleaners and repairers; they are filling thousands of unpublicized positions in factories, banks, stores, and government offices. A million and a half British women are maintaining the home front which, under present conditions of warfare, has assumed a position of importance comparable to that of the battlefield.

IF GREATER demands are made of American women, as indeed they would be if this country were to become more actively engaged in the struggle, will an effective response be received from college-trained women? The answer to this question to a great degree rests with women's colleges, for it is their particular responsibility to supply their students with the essentials of a higher education; a broadened social, political, and economic consciousness; and the necessary techniques for active participation in a rapidly changing society. They must incite their students to greater efforts, so they may be prepared to meet perplexing problems.

The administrations and faculties of women's colleges must recognize the necessity of planning their programs so that maximum utilization of plant and research facilities, curriculums, and professorial staffs may be achieved. It is much better to arrive at such a program during peacetime than to attempt to organize it during periods of greater stress. In spite of the pessimistic future outlook, questionnaires recently addressed to the professors of women's colleges, requesting constructive suggestions as to individual, departmental, and college participation in a nationwide program leading to more adequate preparedness, did not elicit many helpful proposals. College faculties do not know what to suggest. They are chiefly concerned with maintaining traditions and curriculums; they do not recognize the demand for concerted action against passivity.

Every woman's college must weigh its departments in order that the maximum utilization may be made of the present content of courses, with such curricular variations introduced as appear advisable in view of the nationwide preparedness program. The most intelligent use of research facilities in these colleges should be made so that laboratory techniques may be learned by students; courses in mathematics should incorporate

practical as well as theoretical considerations, and the social sciences should promote greater understanding of the war and its effects upon all countries and peoples of the world.

SOME minor variations in college curriculums may be made. For example, it might be deemed advisable to present in the late afternoon or evening the fundamentals of accounting, shorthand, typewriting, and office procedure. These should be offered without credit, in order to provide college women with an orientation course in business to reduce the length and expense of their initial training period. It is conceivable that some of the women's colleges might offer public lectures on world problems by their staffs or by experts invited to their campuses.

It is recommended that each woman's college consider its human and physical facilities, and formulate a program for their maximum utilization. These individual programs should be transmitted to a national committee, appointed by the president of the United States, which would consider all programs and, by inspection of plants and discussion with college administrators and faculties, arrive at a co-ordinated program for American women's colleges with a view to securing the most intelligent use of facilities and faculties. This committee might well be composed of representatives of several women's colleges, from the various sections of the nation, of industry, of science, of women's organizations, and of the Advisory Defense Committee. The recommendations of such a group should avoid the radical modification of basic curriculums; rather they should incorporate such elements of the American preparedness economy as would cause their undergraduates to be more aware of the European conflict and its demands upon intelligent individuals participating in a rapidly evolving society.

College women must be awakened to the lateness of the hour and the gravity of the situation. No one can predict the outcome of the present struggle or the sacrifices which American women may be called upon to make should the conflict spread beyond its present confines. An organized effort should be made to release latent woman power now awaiting liberation and utilization in women's colleges.

The Calculation of Unit Costs

By HENRY BEAUMONT

A More Accurate Computation of Instructional Costs

MOST collegiate institutions have faced the problem of determining unit costs of instruction and presenting this information to administrators, legislators, and taxpayers in support or justification of budgetary requests or for similar reasons. The techniques for making such computations are usually borrowed from the cost-accounting devices used by secondary and elementary schools. It would seem, however, that in universities and colleges certain factors operate which do not exist in other educational institutions and which necessitate the use of different methods if the picture of the situation is to be accurate. Foremost among such factors is the extreme differential in salaries ranging from the highest-paid professor to the part-time assistant, coupled with the variation in levels of instruction ranging from the introductory laboratory section to the advanced postgraduate seminar. Any method of calculation which ignores these points must, of necessity, result in figures which are inexact and unreliable.

To arrive at the instructional cost per student-hour it is customary to divide the total salary budget of a department by the number of student-hours of instruction offered therein. When further details are called for, involving comparative costs of instruction offered different groups of students—Freshmen and graduates, and the like—the budget is divided into proportions corresponding to the relative numbers of instructional hours of each type offered in that unit.

Obviously, this procedure fails to take into account the fact that different levels of instruction are offered by instructors of different ranks and salary levels, with the result that the figures gathered represent rough approximations rather than exact costs. In the final computation each student-hour is considered equal to all others of that type, regardless of the salary received by the teacher in charge. This situation may be corrected and information obtained which accurately reflects the cost of each type of instruction if allowance is made for the differences in salary of instructors teaching students of different qualifications. Such a technique has been used in a study of the cost of teaching at the University of Michigan, from which the following illustrations were selected.[1]

Instead of taking the total salary

[1]The data were obtained during the author's association with the Office of Educational Investigations of the University of Michigan during the year 1937–38.

budget of a department as a basis of departure, each individual instructor's salary was divided into proportions corresponding to the division of his teaching-load among students of each type registered in his classes. These amounts were added for all instructors to arrive at the actual cost for that division, and the obtained totals expressed in percentages of the salary budget in order to determine proportionate costs. In this manner data were obtained which, in several instances, differed widely from those resulting from the use of the conventional method. In Table I some of these cases are offered for inspection, involving the proportions of the departmental salary budgets expended upon different types of instruction.

TABLE I

PROPORTIONS OF TEACHING-LOADS AND SALARY BUDGETS OF SELECTED DEPARTMENTS APPLYING TO DIFFERENT TYPES OF INSTRUCTION

	Freshmen	Sophomores	Juniors	Seniors	Specials	Graduates	Other Schools
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Department A—							
Teaching-load	48.1	20.7	9.1	7.5	0.2	5.5	8.9
Salary budget	27.5	16.8	14.5	13.7	0.1	21.1	6.2
Department B—							
Teaching-load	30.4	17.7	15.1	16.0	0.4	12.8	7.7
Salary budget	15.2	11.8	16.6	21.1	0.2	27.2	7.9
Department C—							
Teaching-load	31.0	24.2	14.5	10.7	0.9	12.2	6.6
Salary budget	13.3	13.2	9.7	16.1	0.8	43.3	3.5
Entire College—							
Teaching-load	21.6	22.7	16.4	12.0	0.2	9.4	17.6
Salary budget	15.4	18.0	16.2	14.9	0.2	20.1	15.3

The upper row of figures in each pair in Table I represents the proportions of the teaching-load in the department devoted to each kind of instruction. This is the figure commonly used to calculate the comparative cost of teaching on different levels. The lower row of figures represents the corrected proportions obtained by the method here outlined.

The discrepancies between the two sets of data are to be explained by the fact that instruction on the lower levels is largely in charge of instructors whose salaries fall in the lower ranges, while upperclassmen and graduate students usually are taught by higher-salaried professors.

The cost of instruction for each group, computed by this method, was expressed in terms of unit cost by dividing each total by the number of students enrolled, multiplied by the number of hours of instruction received. The resulting figure expresses the actual salary expenditure per student-hour of instruction, with full recognition of the salary of the instructor in charge.

Table II lists the unit costs for selected departments. The discrepancies in instructional cost which appear in Table II were caused primarily by differences in the salary

levels of instructors charged with teaching various groups of students. Obviously, these data should not be construed as indicating that teaching costs in one department, for example, Department B, are too high in comparison with the others or with the average, since either the subject-matter or the departmental organization may make this higher expenditure unavoidable or desirable.

THUS far the discussion has been concerned with different types of students. Of equal importance is the problem of instructional costs for different types of teachers. While Table II gives information concerning the gross cost for each type of instruction, Table III contains a further refinement by analyzing these data into separate figures for members of the various academic ranks.

The obvious limitation of the information thus obtained is that it does not permit an evaluation of the quality of teaching on each level. The fact that an instructor can teach a student-hour on the graduate level at the same cost as a full professor can teach a student-hour on the freshman level is no indication that graduates are taught by instructors equally well as Freshmen by full professors.

Finally, it is of interest to compare the extent to which the members of each academic rank shared in the instructional duties involving the various types of students with their share of the salary budget set aside for each kind of instruction. Table IV supplies this information.

Though it appears from Column 9 that the proportionate share of the salaries received by full professors was approximately twice as large as their share of the teaching-load, and that this situation was almost exactly reversed for the instructors, it should be remembered that these figures in no way reflect qualitative differences in services rendered.

The technique which is here outlined is designed for the purpose of supplying accurate factual information rather than suggesting administrative policies. Arguments for the redistribution of salary budgets or teaching-loads, or for reduction in the teaching costs in certain departments, must be supported by a variety of considerations extending far beyond the scope of these data. The exact determination of instructional costs, however, constitutes a major problem in administration and may be basic and essential for multitudinous purposes. It is submitted that the individualized method described here will accomplish this matter more accurately than the conventional technique now in common use.

TABLE II

UNIT COST OF INSTRUCTION IN SELECTED DEPARTMENTS

	Department A	Department B	Department C	Entire College
(1)	(2)	(3)	(4)	(5)
Freshman	.20	.75	.13	.23
Sophomores	.28	1.01	.17	.26
Juniors	.58	1.67	.21	.32
Seniors	.64	2.00	.45	.41
Specials	.19	.70	.30	.29
Graduates	1.34	3.22	1.10	.70
Other schools	.25	1.55	.17	.28
Average	.35	1.51	.31	.33

TABLE III

COST PER STUDENT-HOUR OF INSTRUCTION GIVEN BY MEMBERS OF DIFFERENT ACADEMIC RANKS TO DIFFERENT GROUPS OF STUDENTS

Rank	Freshmen	Sophomores	Juniors	Seniors	Specials	Graduates	Other Schools	All Students
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Professors	.46	.45	.52	.62	.53	1.00	.61	.62
Associate professors	.26	.36	.33	.37	.39	.65	.37	.38
Assistant professors	.29	.27	.28	.33	.30	.37	.26	.29
Instructors	.21	.18	.20	.21	.18	.47	.19	.21
Teaching fellows and assistants	.13	.11	.12	.12	.13	.12	.09	.12
Entire staff	.23	.26	.32	.41	.29	.70	.28	.33

TABLE IV

PROPORTIONATE SHARE OF THE MEMBERS OF EACH ACADEMIC RANK IN THE TEACHING-LOAD AND THE SALARY BUDGET ALLOTTED TO EACH TYPE OF INSTRUCTION

Rank	Freshmen	Sophomores	Juniors	Seniors	Specials	Graduates	Other Schools	All Students
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Professors—								
Teaching-load	8.4	14.3	26.0	31.0	16.7	33.9	17.3	19.3
Salary budget	16.6	25.0	42.3	47.3	30.6	48.3	37.4	36.4
Associate Professors—								
Teaching-load	14.8	17.6	23.2	25.3	13.3	27.8	15.5	19.4
Salary budget	16.8	24.3	23.8	22.7	17.7	25.8	20.0	22.5
Assistant Professors—								
Teaching-load	19.8	24.8	19.8	18.5	31.5	22.6	21.5	21.4
Salary budget	24.6	25.6	16.9	14.9	32.2	12.3	20.1	18.9
Instructors—								
Teaching-load	28.1	22.9	17.3	13.1	15.7	9.4	19.9	20.1
Salary budget	25.4	15.8	10.6	6.6	9.7	6.4	13.3	12.8
Teaching fellows and assistants—								
Teaching-load	28.9	20.2	12.7	6.8	21.9	4.1	25.3	18.6
Salary budget	17.1	9.1	4.8	2.2	7.7	0.7	8.2	7.1

The Autobiography of a Student

ANONYMOUS

Adventures with Teachers Who Knew All the Answers

MY HATRED of classrooms ended during the vacation which preceded my senior year in high school. Something happened that summer—I do not know what it was—which changed my attitude toward education from one of timid endurance to one of eager co-operation; during the next ten years I was to be a serious student. I took to college, professional school, and university an inquiring mind, academic interests, and a wish to be creative; yet a major memory of that decade of academic labor is of conflicts with teachers who sought to make me conform, who wanted to remake me in their own image, and who had for the most part nothing but contempt for my callow efforts to express a struggling individuality.

The vacation which marked my introduction to the life of a student was spent plowing corn, reading O. Henry, and meditating on the status of my repressed personality. I read O. Henry because I found a set of his works in the library of the farmer who had given me a job for the summer. My father, learning of this literary activity, gave me an excellent "collegiate dictionary," and I used it religiously to look up all of the words—which were legion—that I did not know. I did more; I made long lists of these words and memorized them during the long, monotonous afternoons as the cultivator rolled the dirt in toward the corn roots.

That fall I returned to school with high resolves. I determined henceforth to be mature in my attitude toward study, to stop trying merely to please a teacher, even though I might be no longer at the head of the class, and to work for the values inherent in the subjects themselves, rather than for marks. Further, I determined to cease being beaten about by teachers and pupils; I was going to manifest self-confidence in all my relations. My brand of self-confidence turned out to be mostly swagger—as happens again and again to students. The most obnoxiously aggressive youths are frequently timid youngsters who are trying manfully not to be smothered and who exhibit the bad manners of those who must overdo for a time the business of being oneself.

We had a new instructor that year in English, a young woman who had just graduated from the state university. I have often in later years seen her kind budding at commencement exercises—a few scholarly interests, a *C* intellect, a desire to be sophisti-

cated, considerable brass, and a sorority pin. She taught English IV, a class in writing, which I elected. Her first assignment was to write a theme on our vacation experiences. Now my vacation had been all corn, O. Henry, and the dictionary. I, therefore, decided to write a short story. It began something like this:

> Peter's embarrassment azured his countenance as the aurora borealis colors the polar firmament. Yet he determined to flout the conventions, fraught as he knew his action would be with lugubrious consequences. Ratiocination was not one of Peter's proficiencies and thus he strowed forward to the conflict which all observers knew to be inevitable. . . .

I was asked to read my theme which I did with satisfaction and oratorical flourishes. At the end the instructor said, "Sounds rather bookish doesn't it, class? Out of what book did you get that, John?"

I was too dumbfounded to reply. I was not experienced enough to know that she was bluffing, that probably her love for dictionaries was slight, and that I had memorized a few long words of which she had perhaps never heard. She continued before the class to accuse me of plagiarism; and, therefore, I abruptly left the room. I met the high-school principal in the hall. He listened to my story with a sad countenance, but he gave me no sympathy. Doubtless later in the privacy of his office he said plenty to the cub instructor. But to me he said that there must be some mistake, that I must have misunderstood, and that I had better go back to work.

But my resolutions were too new to be so easily put aside. I fathered a spirit of revolt in five of my classmates, and for a week we played touch-football as ostentatiously as possible while that class was in session. After that we went back to English IV. We were made to understand that the school administration considered that the teacher is always right and that his prestige will permit him to claim nothing less than omniscience while his class is in session. The English instructor never apologized, nor did she ever seek to find out what made me use such a curious vocabulary. For the rest of the year she ignored me as much as she dared, and I repaid her in kind.

I did not give up, however. I spent that academic year trying the patience of the faculty by my juvenile attempts to be creative. My formula was that to be creative meant to be different; therefore, I was a nuisance. I was not soldiering; I took schooling seriously—too seriously, as repressed people take everything. I was in truth simply doing my adolescent best to get an education, but it made me terribly unpopular with most of the faculty. A year later, after I had enrolled in college, I wrote to the high school asking that, in view of a scholarship which was available, the college authorities be informed of the fact that I had led my class, in marks. Three, hard-working, yes-sir years had won this honor, though I had all but lost it by that final splurge of assertive independence. My anger blazed—futilely and in private—when I received a note from the principal saying that he and the superintendent had considered my letter and had finally decided to send the statement

to the college dean, although they had not liked my attitude as a student.

I FOUND my college teachers for the most part to be simply my high-school teachers grown gray. I enjoyed most of my studies greatly and profited by them, and whenever my ideas agreed with those of my professors we got along famously. In the subjects which were most important to me, however, I had difficulty.

I wanted college to teach me to be an orator. I had read about Daniel Webster and I had heard William Jennings Bryan, and I yearned to be like them. My freshman year I took a course in public speaking; the professor thereof knew less about the subject than my father whom I was untactful enough to quote generously. We got into many an argument over fine points in delivery—voice and footwork. As a result I wound up the course with a low *B*, but I won the intramural oratorical contest.

This victory gave me the right to represent the college in the state oratorical contest the following year. This was an era, happily forgotten, when carefully prepared orations were memorized verbatim and delivered with an air of exalted sublimity. I worked during the summer vacation on the oration and again enrolled in public speaking in the fall. That year I went after the professor savagely. I did not care about his feelings; I wanted to win that state contest and I wanted him to come through with every bit of knowledge he had about public speaking. I accepted each of his points after careful examination only, and he did help greatly with the delivery of the heroic sort of speech. We spent hours on the proper stance to assume before an audience and on the shape of one's hand while gesturing, literally; and more hours in which I repeated over and over, after the professor, sentence after sentence of the oration; but on the speech itself I got no help whatever. I called it "The American Spirit"; it consisted chiefly of flag waving.

Luck was with me. I won the state contest and a couple of interstate contests, ranking third among the more than eight hundred college orators for that year, but again I received *B* as my mark in public speaking. Two of my classmates received *A*. That professor did know some of the answers, but not all.

His colleague, the professor of history, was a different sort. I would have been fortunate had I made his acquaintance earlier. He met me on the campus during the time when I was receiving many congratulations and said: "Well, John, you have won the contest but what did you say? You have a great gun but nothing to shoot." I recognized the justice of his remark, and from that day I have paid no serious attention to the manner in which a speech is delivered.

The head of the English department was a major factor in my college education. I took two years of English composition under him; they were two years of unsuccessful lessons in spelling. I have since realized that the technique of about half of the teachers of college composition is the same as that of this English teacher. He said, "First I will teach you to write correctly and then

I will teach you to write creatively." And he stuck to it. Consequently he never got me beyond spelling and punctuation. He had such a fear that graduates would bring disgrace to the college by writing letters in which there were technical errors that he hammered and hammered at these wooden aspects of writing, but they did not interest me; I wanted hot tips on how to write the great American novel. I put up with spelling and punctuation only as necessary evils.

I almost flunked the freshman course in composition but came back for more, for I could see that the professor did know how to write. That second year, called "Creative Writing," was a nightmare. Rarely did he criticize the sentence structure of my themes—again I had my academically minded father to thank for that—but how he harped on spelling and punctuation. He disregarded my efforts to organize my material logically and interestingly; he appeared to have little interest in the thought which was expressed. In fact, he finally got to the point of saying that in my case he cared not at all for what I had to say or how I said it so long as it was said accurately—spelling and punctuation. He built up such a fear in me that I lost all confidence in my ability to spell and would flounder over the simplest words. His advice at this point was to look up every word I wrote. In April I handed in a short story on which I had worked hard and of which I was absurdly proud. It came back marked with a big, red *F*, with this comment: "Four misspelled words; if you misspell another word this term I will flunk you. The story is not bad." The curse be on him. To this day I never post a manuscript without trembling for fear that I have disgraced him and lost the respect of educated men by misspelling a word. Usually I have.

In the last half of my senior year I stumbled into a course offered by the history professor who had given me the advice about public speaking. I found that the chief task was to write a term paper. He stipulated that his students choose the topic, find the material, and organize it in the manner they saw fit. He made many suggestions but few requirements. And now I found the academic opportunity for which I had been looking! The professor and I had a long conference when the paper was done, one in which he pointed out strengths, errors, and some possibilities which I had failed to realize. Then he said: "I hear that you are going on to graduate school next year!" I nodded. "You will find it very different from college. There you will have to do independent and original work. You will be expected to know what other men think but also to have an opinion of your own." I thrilled at the thought. If my long academic apprenticeship had brought me to this, it was worth it.

YOU will write a paper each week," said the professor of the orientation course in the professional school. "The topics for the papers you will find listed on the mimeographed sheets which have just been passed to you. You will find noted there, also, the books to which you may refer."

To my inexperienced eagerness that sounded perfect. I worked hard on the first paper. I read carefully large sections of all six of the books to which we were referred and then spent two solid evenings stating my reactions. I received a jolt when that paper came back. It was marked *D* and on it was penciled this note, "If you had read the books to which you were referred, you would not have made so many mistakes."

I was embittered; the reader who had marked that paper knew all the answers. My opinion was valueless and not wanted. I changed my tactics. Thereafter in that course I went to the library, scribbled off as hastily as possible long quotations from the reference books, and in two hours finished papers filled with feebly disguised plagiarisms. Everybody was doing it, so why not I? Each one of those themes came back marked *A*, and with no comment.

I had chosen this school with care. It was manned by men who were famous as scholars in their chosen fields. But they taught dogmatically; seldom did they share with students their scholarly perplexities. I worked hard during the three years that I spent there; my regular schedule, five days a week, was arise at seven, skip breakfast in order to save time, and then work at my desk or in the classroom until eleven at night, with time out for just three things: lunch, dinner, and a brief swim in the tank. I received a fine training there, yet my standing at that school today is not particularly high. The trouble was that I was too eager for an education. I completed many self-imposed tasks, running down fine points that intrigued me but for which I never got credit. I did conscientiously the tasks assigned but I failed to study the professors as much as I studied their subjects, a great mistake I discover in any school if one's aim is to make an impression.

FROM the professional school I went to one of the greatest universities in America; it was my intention to matriculate for the Ph. D. In the middle of a stimulating first-term's work I spoke to the head of my department concerning some ideas I had about a thesis. He had some ideas about it too; he thought it would be just jolly if I were to write the history of a certain French monastery during the ninth century. I did not argue the matter with him; indeed I believe that he never learned my true feelings toward that erudite proposal, for I had resolved by this time to play the academic game. I discussed the matter with him gravely and conveyed to him subtly my conviction that this was a very clever, not to say brilliant, idea of his; but as soon as I left his office I began to look around for another university in which to finish my graduate training.

I found one, a very famous one, where my ideas and those of the men under whom I would study more nearly coincided. I enrolled and made a rather good record. Today I have no trouble in getting recommendations from this university for any job for which I happen to be in the market. This is true not because I burned the midnight oil, for I abandoned my professional-school study

habits. I took time for many things other than study. I spent many an hour at the theater, in art museums, and at the opera. I seldom studied after five o'clock and usually was available for a game of bridge. To be sure I worked hard; one must to get a Ph. D. I have known many dumb Doctors of Philosophy but few lazy ones. My point is that I did not work nearly so hard at the university as I had at the professional school, and yet I have a much better record at the university, which has the reputation of being a much more difficult school from which to graduate. You see I did what I was told to do; I was a regular. I studied the professors and flattered them. I attended every class session, always handed papers in on time, never asked questions outside the specific field of a course, and always accepted as final any decision a professor might make, however arbitrary.

The department of the university in which I was studying had a certain project that it wished to have completed. It was suggested that I take it on as a thesis. I liked its looks and consented. It turned out to be a long and interesting job, and it was completed without a major hitch. For I was very careful at the beginning, before I formulated any plans whatever, to have a long talk with each member of the department in order to get his complete thought as to how the research should be conducted. Then at each new stage in the process I sat in the office of my major adviser waiting patiently until he could see me in order to give further counsel. I made no move without his direct consent. Always on major matters I consulted the entire department; whenever the doctors disagreed I was careful to keep out of the fracas until finally, sometimes after weeks of waiting, the oracle on Olympus would speak and I would feel it safe to proceed.

Thus was produced another "original contribution to the sum total of human knowledge." When it was all over the head of the department sent congratulations on a "truly distinctive and creative thesis, one that lives up to the best graduate tradition."

IF I have given the impression that my purpose in writing this piece has been to produce a belief that teachers are a bigoted and prejudiced lot, I want to correct it. I have an intense admiration for many of the men about whom I have been writing and some of them are my warm personal friends. I do not expect professors to be saints. I am a professor. For a decade now I have been playing bridge and swapping stories with some of the finest fellows in the profession. But all my faculty associations have strengthened in me the impression that we teachers, for all our pious boasting about "training people to think," place stumbling blocks in the path of the students who bring their first crude efforts at thinking to the professorial throne. We are a dogmatic lot when we talk to Sophomores—we know the answers.

I wonder, however, if the fault is not more with the system than with the teacher. Many instructors try constantly to teach in such a manner that the creative instincts of students

will have full rein; yet the necessity of maintaining the "reputation of the department," of "keeping the academic standards high" imposes restrictions which for the most part compel instructors to assign the lessons and insist on their completion. I wonder if the college instructor can stay within the present academic mold and do the best by the most serious of his students.

A president of the Rockefeller Foundation once said, "A good malaria fighter must learn to think like a mosquito." I am convinced that within the present academic order a good student must learn to think like the professor.

· *With the* · Technicians ·

Should Catalogues Include Lists of Students?

Many thousands of dollars are expended each year by institutions of higher learning in publishing in their official catalogues rosters of students in attendance and a list of those granted degrees. With student enrollments increasing more rapidly than income, institutions are seeking every means to economize, and the publishing of these lists, which on the average amount to about 10 per cent of the total cost of the catalogues, is being seriously questioned.

The Oregon State System of Higher Education, which embraces six institutions, has for some time included such lists in each of its six annual catalogues. To determine the practice of institutions throughout the country on this matter, and to learn the usefulness of such lists, a survey covering approximately three hundred institutions was made recently.[1] Replies were received from 263 institutions, of which 149 were state teachers' colleges, 76 were state universities or land-grant colleges, and 38 were not state universities.

The following significant findings emerged. Of the 263 institutions, only 99 published the student lists as an appendix to the catalogue; 27 published the lists as a supplement to the catalogue in a limited issue; and 137 did not print in any form the list of enrolled students. If the state teachers' colleges are excluded from the tabulation, approximately 50 per cent of the state and private institutions used the appendix form for student rosters; 16 per cent printed a supplement; and 34 per cent did not publish the student lists in any form. Of 263 institutions 55 per cent included a list of graduates, either as an appendix or as a supplement to the catalogue. When the state teachers' colleges are eliminated from this tabulation, 68 per cent of the state and private universities and land-grant colleges included rosters of their graduates.

In reply to a query on the use made of these student and graduate rosters, the registrars of the 263 institutions indicated that for the most part the lists are of relatively little value, beyond local use and official record. On student rosters, 5 reported "much use," 87 "little use," and 167 "no use." On lists of current graduates, 7 reported "much use," 85 "little use," and 166 "no use."

Comments made by the registrars indicated that the practice of publishing such lists in the catalogues is being seriously questioned by many institutions, and the trend is toward the abandonment of the practice. This is particularly true of the rosters of the entire student population.

[1]Reported by Charles D. Byrne, Secretary of the Oregon State Board of Higher Education and Administrative Assistant to the Chancellor of the Oregon State System of Higher Education.

Because the lists find their chief value in local use, mimeographed lists are supplanting the printed lists in the catalogues. A number of institutions did indicate, however, that the values for local use and official record warranted the publishing of a limited edition of the catalogue with both lists appended. In some few instances student directories are published by the institutions to serve not only the student population, but also as an official record of students in attendance.

As a result of this survey, the Oregon State System of Higher Education is contemplating taking over the publication of student directories, now issued by the students, making these directories serve as supplements to the catalogues, and abandoning the practice of including the student and degree lists in limited editions of its six institutional catalogues.

The interest in this survey was indicated by the fact that 209 institutions, or 80 per cent of those who replied to the questionnaire, asked to have the tabulated results of the study.

Revising Course Content[2]

There have been frequent attempts to use graduates to determine points at which the content of professional courses might be revised. The usual technique has been to send them a questionnaire requesting suggestions in the light of their experiences after graduation. They are asked to indicate the topics they think should be expanded, minimized, or eliminated among those they studied in the course while in school. As a rule this procedure has not proved fruitful for three reasons. In the first place, graduates do not remember very clearly what topics they studied in the course. In the second place the graduates, if they do remember, studied different topics as the course evolved from year to year, and so the reader has no basis for knowing to what topic the graduate is referring. In the third place, statements of judgment and not of facts result.

Recently the Chemistry Department of the Rochester Athenaeum and Mechanics Institute effectively varied the technique with its professional courses. A questionnaire was constructed in which each course was subjected to a detailed analysis of the topics covered. For example, in the course, "Technical Analysis," there appeared such topics as *gas analyses*, *water analyses*, *coal and fuel analyses*, and so on. Graduates, however, were not requested to pass judgment as to whether or not these topics should continue to be considered in the course. Rather, it was asked that, in light of their immediate and past experiences, they indicate the degree to which they had been called upon actually to perform the various activities listed. They were to check whether the activity had been "used a great deal," "used occasionally," or "never or hardly ever used."

In addition, provision was made for the graduates to write in activities not included in the questionnaire. These new items were then incorporated in a second questionnaire and checked by all the graduates upon the

[2]Reported by A. A. Johns, Rochester Athenaeum and Mechanics Institute.

same basis as the original. This led to the discovery of a number of activities which were rather common, but for which little provision is made in the existing curriculum. It also made the faculty conscious of new processes which were developing and becoming important in the industrial field.

The first questionnaire was sent to one hundred graduates employed in the chemical field, either in laboratories or in manufacturing. Only graduates actually employed in one of the diversified areas of industrial chemistry were included in the mailing list. The types of position varied widely, but experience in chemical procedures was a common factor in all cases.

Fifty-six questionnaires were returned properly checked, in almost all of which additional activities were written in. These represented duties which the graduates had been called upon to perform, but for which no specific provision had been made in the curriculum. In all there were seventy-seven such suggestions, a number of which were common to several individuals. The latter served as the nucleus of the second questionnaire which was sent to the fifty-six replying to the first inquiry. Replies to the second questionnaire were weighted for comparison with the results of the original replies. The final "score" for each item on both questionnaires was computed by adding the checks under "used occasionally" to the number of checks under "used a great deal," the last being multiplied by two. Checks under "never or hardly ever used" were not included in the scoring.

The weighted scores for all items ranged from 4 to 94. These scores roughly indicate the curricular elements which should be carefully scrutinized with a number of purposes in mind. Topics given low scores have been examined to determine whether or not they should be eliminated. Those with high scores have received greater emphasis, and additions to the original lists in common use have been made. Faculty judgment, in the light of the total situation, was, of course, the final determining factor.

This quick evaluation of the content is used in all the technical courses of the department. The service courses, of course, are validated by reference to the technical courses to which they are prerequisite rather than to use in the field.

The Freshman Testing Program[3]

This study largely concerns the results of the battery of tests given to the 1939 Freshmen of Ashland College upon their entrance. The group of tests consisted of the Ohio State University Psychological Test; the American Council Psychological Test; three American Council Co-operative General Achievement Tests, including social studies, natural sciences, and mathematics; the Co-operative General Culture Test, which includes sections on social studies, science, mathematics, literature, and fine arts; the Co-operative English Test, which includes sections on usage, spelling, and vocabulary; and the

[3]Reported by Emmet C. Stopher, Department of Mathematics, Ashland College.

Iowa Silent Reading Advanced Test.

The first premise here considered is that two tests measure the same thing if there exists between them a high coefficient of correlation, say .80 or above. High coefficients of correlation between the scores on each of the general-achievement tests and the corresponding parts of the general-culture test thus would justify the claim that there would be unnecessary duplication in including both tests in a freshman program. The three coefficients of correlation, based on the scores of 109, 107, and 110 students, respectively, are as follows:

	Correlation Coefficient
General-achievement social studies, general-culture social studies	.84±.02
General-achievement natural science, general-culture science	.87±.02
General-achievement mathematics, general-culture mathematics	.74±.04

These correlate fairly well except for the mathematics parts. However, the two-way diagram would suggest that the relationship is better than the linear coefficient of correlation would indicate, since the general-culture mathematics scores are bunched at the lower end of the range.

In an attempt to select the better of the two mathematics parts, since their correlation was less than was desired, they were each correlated with the Q-score of the American Council Psychological Test.

	Correlation Coefficient
General-achievement math. (Q-score)	.60±.02
General-culture math. (Q-score)	.48±.05

Since the Q-score (quantitative intelligence) is the score on the quantitative sections of the American Council psychological test, one might consider these two correlations a slight argument in favor of the validity of the general-achievement mathematics test. It was decided to compare the mark-predicting power of these two tests.

First, the scores on parts two and three, those of science and mathematics, were added together and the totals were correlated with the first-semester averages in science and mathematics of 65 Freshmen.

	Correlation Coefficient
General-achievement science+math., science+math. average	.42±.07
General-culture science+math., science+math. average	.42±.07
Q-score, science+math. average	.20±.08

These two coefficients of correlation are equal. They are seen to be considerably higher than the value obtained when the Q-score is used to predict science and mathematics marks.

Next, the mathematics scores of the Freshmen who took freshman mathematics were compared with their first semester marks in that course. The number of cases was 19 and 20, respectively, one of the Freshmen for some reason or other not having taken the general-achievement test.

	Correlation Coefficient
General-achievement math., math. marks	.59±.10
General-culture math., math. marks	.55±.10

The difference between these two coefficients, being less than 1 *PE*, might not be considered significant, but, such as it is, it is on the side of the general-achievement test.

Most readers are probably acquainted with the various forms of the Ohio State test, and of the American Council Psychological Test. It will be recalled that the American Council test is divided into six parts: the first three are scored together to give

a Q-score, a "quantitative intelligence" score, and the last three together give an L-score, representing linguistic ability. The Q-score and the L-score are added to give the score on the complete test.

	Correlation Coefficient
Ohio State, American Council psychological	.79±.02
Ohio State, vocabulary	.78±.02
Ohio State, American Council L-score	.83±.02

These results were disturbing. The two psychological tests did not agree to the extent that was desired of two tests measuring the "same thing." The first two correlations would indicate that if the American Council test perfectly measured intelligence, then the Ohio State test measured vocabulary to the same extent that it measured intelligence. Again with that same big *if*, the third correlation says that the Ohio State test measured a part of intelligence rather than intelligence as a whole.

The impossibility of our settling which of these two tests better measures "intelligence" is immediately conceded. We might be on a little surer ground if we used the expression which many writers have used, "the kind of intelligence which makes for success in college work." Or, if we could get the names of these tests changed to "college-aptitude tests," we could easily see which better predicted success, at least success as measured by our marks. We decided, however, that we were interested in the prognostic value of the tests and that we would investigate that point, leaving for others the problem of finding what the tests actually measure.

The following correlations included 106 cases. The grade-point averages used were based as follows on all of the first-semester freshman marks except physical education: *A*, 4 points per semester hour; *B*, 3 points; *C*+, 2.5 points; *C*, 2 points; and *D*, 1 point.

	Correlation Coefficient
Ohio State test, average mark	.62±.04
American Council psychological marks	.35±.06
L-scores, marks	.43±.05

The third correlation was suggested by the fact that the L-score correlated so well with the Ohio State test. It will be noted that the Ohio State test did a significantly better job of predicting marks than did either the American Council test or its L-score part, but, peculiarly, the L-score predicted marks better than the L-score and Q-score did together.

Since it has been shown that the Ohio State test is closely related to vocabulary and linguistic ability, it was decided to see how well it predicted marks in freshman English.

	Correlation Coefficients
Ohio State, freshman English marks	.71±.03
L-score, freshman English marks	.53±.05
Co-operative English, English marks	.71±.03

Here again the results were surprising, showing that the Ohio State test predicted freshman English marks much better than that part of the American Council test which is supposed to test linguistic ability, in fact, showing that the Ohio State test is practically identical in English mark-predicting power with the Co-operative English test. It should be remarked that for this third correlation the sum of the three-part scores, usage, spelling, and vocabulary, was used.

As the final test of the prognostic value of the Ohio State test, it was

decided to compare the predicting power of its first-semester freshman mathematics mark with that of the Q-score, the score on the quantitative sections of the American Council test.

	Correlation Coefficients
Ohio State test, math. marks	.28±.14
Q-score, math. marks	−.04±.15

The Ohio State test appears to be significantly better in this respect although neither test can compare with the mathematics parts of the tests already investigated. Each of them, it will be recalled, correlated over .55 with the marks in freshman mathematics. It is surprising that the Q-score should correlate negatively with the mathematics marks although, of course, it is negative by considerably less than 1 *PE*.

Course Revisions

A broadening of the studies and requirements for the Bachelor of Arts degree with a virtual withdrawal of the degree of Bachelor of Science from the College of Liberal Arts, Boston University, is contained in the announcement of new curriculum requirements in the College by President Marsh and Dean Taylor. Under the new requirements only students pursuing a pre-medical course will be granted the science degree; all others will be candidates for the degree of Bachelor of Arts. These curriculum changes follow a careful two-year study by a faculty committee.

Three main divisions of the curriculum of the College have been named: literature and the arts, the natural sciences and mathematics, and the social studies. Each student in the College has to complete at least 12 semester-hours in each of the three major divisions of study. Breadth of election or "distribution of studies" is safeguarded by requiring a choice of courses from at least two subject fields in each of the three main divisions. Stating that in many colleges opportunities for honor and distinction are open to 20 to 30 per cent of the senior class, while in Boston University College of Liberal Arts, requirements for degrees with distinction have been maintained at such a high level that but a few have been able to take advantage of their provisions, Dean Taylor revealed that the faculty has asked the Committee on Honors to prepare recommendations for extension of these opportunities to a larger number of students who are capable of doing distinguished and individualized work.

·The·Reporter·

WITH the purpose of becoming a reference center for students of Latin-American culture, Brown University has undertaken a project for microfilming rare materials published in South and Central America and Mexico. The project will be carried during the next three years under a grant of $33,000 from the Rockefeller Foundation. Brown was chosen to conduct the project, because the John Carter Brown Library has long been recognized for its superiority in the extent and selective character of Latin-American resources for the period before 1801.

A BEQUEST of more than $2,000,000 has been received by Northwestern University from the estate of the late Margaret Gray Morton. The legacy is to be used for medical research and for the erection of an endowed hospital.

Two surveys of the curricular offerings of Hamilton College are being conducted this winter: one in public speaking and the other in social science. Each survey is being made by leaders in the field who visit the College individually, attending classes, conferring with members of the faculty, and meeting the students. Each will write a report which will be sent to other members of the survey committee prior to a two-day conference for drafting the final report. Recommendations of the two committees will be considered by the Hamilton faculty and trustees in developing the public-speaking and the social-science curriculum.

A GIFT approximating $1,000,000, recently accepted by the Regents of the University of California, was received from the will of the late Michael J. Connell, a Los Angeles banker and philanthropist. It was not indicated how the funds from the bequest should be used.

A PICTORIAL pamphlet entitled *Hampton Today* has been published by Hampton Institute to commemorate the inauguration of Malcolm S. MacLean as its sixth president. One of the features of this pamphlet is a vivid pictograph of the employment percentages of Hampton Institute graduates in the last five years, which indicates that 84 per cent of all graduates of the Institute were known to be placed after graduation.

TEN graduate fellowships in government management are offered by the University of Denver for the academic period beginning September, 1941, under a grant from the Alfred P. Sloan Foundation. The fellowships, to be awarded on a competitive basis, carry a maximum stipend of $100 per month for a single person and $150 for a married man. The training period will cover six quarters, from September, 1941, to March, 1943. Application forms may be obtained from the Committee on Fellowships, Depart-

ment of Government Management, School of Commerce of the University.

A NEW $150,000 laboratory for research in problems of high-voltage transmission has been authorized for the Cornell College of Engineering. The laboratory will be used for research into the properties of air and other electrical insulating materials. The building will be of steel construction throughout to provide an electrostatic shield to keep the effects of high voltages within the laboratory. Connected with it will be a high-voltage transmission line.

THE University of New Hampshire is celebrating its seventy-fifth anniversary this year and will publish its first official history, covering the period from 1866 to 1923 in detail. The New Hampshire Anthology, a representative volume of the best University writing of the last twenty years, is also being published as an anniversary volume.

THE first hurdle in a long-range program to offer educational opportunities to every man, woman, and child in Texas, by means of radio, has been undertaken by the University of Texas. Having found the Southwest in the lowest bracket of the country's regions in quality and quantity of radio programs of an educational nature, the University has taken steps to remedy the shortcomings. Broadcasting a twelve-weeks series of educational programs on the state's natural resources from its own studio, established last fall, was the first half of the undertaking. The second was the analysis of the effectiveness of those broadcasts, completed recently. A survey of listeners to the programs, made by the University Bureau of Research in Education by Radio, revealed that the radio audience feels a need for educational broadcasts, thinks the University should push education by means of the radio, and perfers that all or part of each program be dramatized.

DURING the last decade nearly twenty-seven thousand theses were written by doctoral candidates in American colleges and universities. According to the recent publication entitled *Doctoral Dissertations Accepted by American Universities*, the number has increased each year since 1931. In that year, 2,183 dissertations were reported; in 1939–40, the number was 3,088. In the latter year dissertations were accepted by 90 colleges and universities embracing nearly 50 fields, with chemistry leading with 527, followed by education with 309. The five institutions accepting the greatest number were: Columbia, 198; Chicago, 163; Wisconsin, 160; Illinois, 153; and Michigan, 141.

DATA taken from the recent handbook *Christian Higher Education* indicate that in 1939 denominational junior colleges in the United States numbered 189. They reported an enrollment of 32,156 full-time and 2,468 part-time students with an equivalent of 2,971 full-time faculty members. Their libraries contained 1,300,000 volumes; buildings and grounds were valued at $51,000,000 and equipment at $8,000,000. Endow-

ment funds amounted to $13,750,000, and indebtedness to $5,500,000; the total income was $12,600,000, of which $7,600,000 was from student fees, endowment, and gifts. Expenditures totaled $12,000,000.

In response to an inquiry from the United States Office of Education to a number of representative colleges and universities concerning information on new policies, plans, or activities adopted to meet the defense emergency the following major adaptations were reported: close co-operation with national and state defense programs, provision of technical facilities for defense training, leaves of absence for faculty members for military training, and encouragement of civilian pilot training, *ROTC*, specialized technical courses, seminars, conferences, and courses on defense programs.

The Association of Colleges and Universities of the State of New York recently appointed an important committee, under the chairmanship of the President of Cornell University, to study ways of improving teacher education in the state. The committee brings together in a co-operative enterprise the universities, colleges, teachers' colleges, and normal schools. This Committee is operating under a grant from the Commission on Teacher Education of the American Council on Education.

A five-day conference at Ithaca recently was attended by more than 125 representatives of educational institutions in the state. This conference was divided into working groups which discussed problems concerning the maintenance of democracy, the general education of a teacher, the selection and guidance of the prospective teacher, recent research concerning the growth and development of children, and the arrangement for practice teaching. An outgrowth of this conference is a booklet, *The Education of a Teacher*, organized around the teacher's responsibility to society, to the pupil, and to the profession.

A grant of nearly $200,000 for a five-year expanded program in social work at the graduate level has been received by the University of Pittsburgh from the Buhl Foundation. The funds will provide field supervision in group work, fellowships in important divisions of study, a creative-arts studio introducing advanced ideas in teaching, and the most complete library among social-work schools in America. The new facilities will occupy two floors in the Cathedral of Learning.

An initial grant of $1,000 for research in educational motion pictures has been made by Coronet Productions to Indiana University. The findings will be used as a basis for planning and producing motion pictures for classroom use. The research will be supervised by staff members of Indiana University, and its purpose is to analyze the curriculum content of the first twelve grades to determine the topics for which motion pictures may provide an adequate background for classroom instruction. Work will begin immediately on four studies. The first study is designed to identify topics in the elementary grades which

may be successfully presented by educational motion pictures. A second project will ascertain which social-science situations are taught most often in Grades VII through XII. A third study will be the field of business education. The last will endeavor to identify within the areas of group games, folk dancing, and fundamental rhythms, the activities which are most frequently used in each grade of the schools.

A FOLLOW-UP service of Pennsylvania State College has revealed that the majority of the graduates of the School of Education who are teaching have had assigned to them not only the subjects which were their majors at college but at least one additional subject. As a result of this finding, students are now given a more diversified program during their nine weeks of practice teaching. Started three years ago, the follow-up service has proved highly valuable not only to graduates and to the schools in which they teach, but also to the faculty of the School of Education.

PRESIDENTS of 750 leading American universities together with officials of national learned societies recently participated in the dedication ceremonies for the new Hancock Hall which will serve as headquarters of the Allen Hancock Foundation for Scientific Research on the University of Southern California campus. The $1,000,000 building will serve as a center for scientific research in the fields of zoölogy and botany. It is the gift of Allen Hancock, president of the University board of trustees. Specimens gathered from the voyages of the exploration cruiser "Velero III"—also a gift of Mr. Hancock—during the past nine years will be housed in the new building. The new structure provides a space for over one hundred research laboratories. Six levels of steel and concrete stacks offer controlled humid storage for the specimens. In addition to two auditoriums, the building contains a modern radio broadcasting studio and X-ray and photographic rooms.

TO SUPPLEMENT the needs of the defense program 444 new engineering courses are being given by 91 engineering colleges in 44 states. Defense training was initiated last October when Congress appropriated $9,000,000 to pay the cost of short intensive college courses to meet the shortage of engineers with specialized training in fields essential to national defense. Each course is specifically designed to provide technical training and experience as designers, inspectors, or supervisors of production. The Federal government will pay the cost of the instruction of the students enrolled. The United States Civil Service Commission, Federal and state employment offices, and college placement bureaus will assist those who complete such courses to find jobs. The courses vary from eight weeks to six months depending upon the difficulty and the number of subjects which can be carried by students. The director of the Engineering Defense Training Program in the United States Office of Education is Roy H. Seaton, dean of the Division of Engineering at Kansas State Col-

lege. Assisting him is an advisory committee of eleven nationally known engineering educators headed by Dean Potter, of the School of Engineering, Purdue University.

A COMPREHENSIVE program of health education has been instituted at the College of the City of New York. In a plan for meeting the needs of the student while he is in college and even after he has been graduated, each is required to take a two-year course in hygiene. Each Freshman is given a thorough examination by a staff of physicians, dentists, and oculists, and subsequently during his course the student is required to have yearly medical examinations. The student who is physically incapacitated is assigned to special classes for lectures on personal and group hygiene and is given helpful exercises. The recommendations concerning each student are checked to make sure they have received attention.

Within the past year more than five thousand students took part in intramural sports it was indicated in the report of the hygiene department. City College now rates fourth among the universities of the country in student participation in intramurals.

COLLEGES and universities over the country fared better in 1939–40 than in the preceding year, according to a report on the finances of approximately 340 institutions just distributed by the United States Office of Education. Collections from students for educational purposes amounted to nearly 4 per cent more in 1939–40 than in 1938–39; the contributions of national, state, and local governments increased by more than 2 per cent; private benefactions for current purposes increased 3 per cent; and revenue from sales and services of related activities increased 39 per cent. Income from endowment funds also increased 2 per cent. At no time since 1929–30 have the earnings of endowment funds been so high as in that year. In 1933–34, the total yield of these funds was only about three-fourths of that reported four years earlier. In 1939–40 they were about nine-tenths of the 1929–30 level. Private gifts and grants for current purposes, as announced by the 307 colleges and universities reporting regularly stood at just under $11,000,000 in 1929–30. Although they dropped to less than $8,000,000 in 1931–32, they climbed irregularly to $13,000,000 in 1939–40, a net increase of 18 per cent.

MORE than fifteen hundred secondary-school students from four states will assemble at Temple University on March 21 and 22 for the Seventh Annual Career Conference for Secondary Education Students. Thirty-five "career fields" will be explored, ranging from apprenticeships in trades to the professional study of medicine, law, and engineering. Students who are especially interested in methods and procedures for determining aptitudes, skills, and interest patterns, as a part of the process of choosing a vocation and setting up educational plans, are invited to a workshop session, in which opportunity will be given to discuss specific problems with specialists in counseling and guidance.

Another outstanding feature of the two-day meeting will be a guidance clinic for parents at which mothers and fathers interested in planning careers for their children will be given advice and suggestions by a group of experts. There also will be vocational films for counselors. On the opening day there will be a discussion for counselors, registrars, and high-school principals demonstrating the techniques and instruments used in the transition from school to college.

In response to increasing interest in music and the attendant demand from undergraduates for a wider choice of courses in the field, Yale has created a Department of Music and added seven new courses, which bring the number open to undergraduates to twenty-seven. The Department is separate from the School of Music, which is chiefly for professional students. One faculty, however, serves both. Two majors in music are offered to undergraduates: the history and literature of music and the theory and composition of music. The new courses include studies in the choral music of Bach, the Beethoven quartets, modern music, and conducting and score reading.

Construction of an astronomical observatory was started on the campus of Tulane University recently. The building, a gift of an anonymous donor, will cost approximately $20,000. It will house a telescope which was given to the University by the granddaughter of the late W. H. Pickering, a noted astronomer who owned the instrument and operated it in an observatory in Jamaica. The two gifts will allow the University to extend its astronomical courses.

A national committee of alumni for the Yale Law School is sponsoring a campaign to raise $1,000,000. Charles P. Taft is the chairman of the 200-member committee that is securing gifts from Yale alumni in the legal profession. The campaign was initiated as a result of an offer from John A. Hoober, president of the Yale Law School Alumni Association to give one dollar for every three given by others toward the needs of the Law School, with the provision that the income from his own gift should be used for the benefit of the library. Gifts aggregating nearly $50,000 have already been received.

The first dormitory to be built by California for any of its state colleges has just been completed at Humboldt State College. The total cost of the new commons-dormitory is approximately $200,000. The building replaces an emergency structure hastily erected almost a quarter-century ago. A coeducational dormitory such as the one just completed is an unusual feature in student housing. The building contains common lobbies and dining halls with separate wings and entrances for men and women.

· Editorial · Comments ·

College Skills

OUR current Quick Survey indicates widespread concern about the reading ability of college Freshmen.

For some time data have been accumulating to show that the pattern of courses taken in high school has little or no influence upon college success. There was a time when entrance units were quite rigidly prescribed, but gradually the restrictions have been eased. Specifically, in some states the local legislatures have taken a hand in higher education and ordained that any graduate of a good high school may enter institutions supported by the state. More recently the graduates of high schools in the Eight-Year Study on the Relation of High Schools and Colleges have been given blanket admission to over a hundred colleges which require only that the high-school graduate have the recommendation of the high-school faculty in order to be admitted. In the high schools co-operating in the Progressive Education Association study the faculties might teach the students anything which they felt was good for them, and the college would accept the product. This meant a wide diversity of courses and probably a still wider diversity of course content because these high schools are curriculum explorers. In the five-year follow-up study of several thousand graduates who enter college, however, it is apparent that they are just as successful as those who enter from the so-called traditional high schools.

The case against prescribed course patterns is established for all practical purposes. There is, however, an increasing belief that certain skills are of major importance in college success. The case has not been made for these skills in so objective fashion as against course patterns, but the trend is toward belief in the major importance of speed and comprehension in reading and effectiveness in writing and to a less degree in speech. The interest in remedial reading in colleges is a symptom of this belief.

While we are not of the group who place all the blame for college failure upon the high schools, in this case it is apparent that the development of reading skills rests squarely upon the high schools. It is possible to detect reading deficiencies far down in the grades of the elementary school, and at that point remediation should be undertaken by the teachers as soon as detected.

It should be undertaken as a measure of self-defense because if pupils cannot read in the elementary school, they are handicapped in learning grade experiences. If they cannot read well in the high school, they cannot learn their subjects. There is no valid excuse for failure to detect reading deficiencies anywhere because there are plenty of instruments to measure speed and comprehension.

When the handicaps are recognized, techniques for removing them—practice exercises, methods—are available in profusion.

Those who are deficient divide into three classes: the bright, the average, the mentally dull. For the first class remedial work is very rich in results; these bright students have the ability but have failed to learn some of the tricks of reading. The average student can be substantially improved. The last class can be improved in their degree, but they probably ought not to be advised to go to college because ordinarily they do not lead there either happy or valuable existences.

It has been our belief for years that the high school should in the senior year give all prospective college entrants a thorough checkup on college skills, and for those who need it provide a vigorous, snappy course of training. Some high schools do just this with marked success.

Until college skills are so prepared for, it is shrewd for the college to establish clinics where the skills are developed. They should do this in self-defense to protect the integrity of their instruction.

W. W. C.

..Reviews..

"A Posession for All Time"

HISTORY OF THE UNIVERSITY OF PENNSYLVANIA, *by Edward Potts Cheyney.* Philadelphia: University of Pennsylvania Press, 1940. x+461 pp. $4.00.

This book was prepared for the celebration of the bicentennial of the University of Pennsylvania, but, like the work of Thucydides, it may be regarded as "a possession for all time." It was a happy circumstance that the eminent historian, Edward P. Cheyney, chose to retire from active service as a professor in the University half a dozen years before the celebration, at the height of his powers and reputation, and was able to devote his talents and training to reproducing the life of his Alma Mater.

Yet the treatise is intended for laymen, rather than the historian. It is admirably written, and, while largely based upon primary sources and occasionally quoting from them briefly, it seldom cites the documents *in extenso*, and it uses references and footnotes but sparingly. The text is as attractive as it is critically balanced and soundly deduced. It does not attempt an encyclopedic completeness; it is free from deadlevel detail. The author has for the sake of perspective ruthlessly discarded much of the material, though collected with great pains. He holds that each portion and phase of the University's development should receive special individual attention at some time, and modestly insists that his own presentation is far from adequate and final.

The chapters of the book describe in turn the background and activities of the colonial charity school, academy, and college; the transition of the institution to the appellation and status of the first American "university"; its periods of early expansion and decadence; its renaissance and removal to West Philadelphia through the labors of Provost Stille; the emergence of the provost as an independent leader and the astounding growth in resources, buildings, and equipment through the modern period under Provosts Pepper, Harrison, Smith, and Penniman; and finally, the enlargement of vision, the differentiation of administrative functions, and the strengthening of academic and financial resources associated during the past decade with the Presidency of Thomas S. Gates.

The striking characteristic of all the chapters is their candor but kindliness. Mr. Cheyney is the very soul of historical integrity, "as hard as nails" in ascertaining and balancing facts, but, in interpreting a personality or a situation, he is considerate and humane as any eulogist or partisan. The delicate question of date of foundation, the anemic administration of nonentities in the middle period, the extended domination of the board of control, and the conditions that led to the creation of a presidency while retaining the provostship, are all presented in strictly accurate but thoroughly sympathetic fashion. *Tout comprendre, c'est tout pardonner.*

FRANK P. GRAVES
The University of the State of New York

An Excellent Guidebook

THE UNIVERSITY OF PENNSYLVANIA TODAY, *by Cornell M. Dowlin.* Philadelphia: University of Pennsylvania Press, 1940. x+209 pp. $1.50.

This account of the present organization and activities of the University of Pennsylvania furnishes a most helpful guide for visitors to the campus of the great educational institution in West Philadelphia. It is a natural supplement to the monumental history of Edward P.

Cheyney, which affords a full account of the development of the University from the colonial period to the bicentennial celebration, but lacked the space to follow the later development of each department and to describe its status and appearance today.

With the aid of Mr. Cheyney, who has also written the Introduction, a brief statement is made concerning the origin of each division of the University work, but the efforts of Mr. Dowlin are for the most part confined to describing the activities of the University as they now appear. This is done most interestingly and the text is accompanied by some forty attractive views of the academic buildings, residences, libraries, laboratories, hospitals, gymnasiums, athletic fields, quadrangles, gardens, walks, and student life.

The material has been logically, rather than geographically arranged. It describes the University on the basis of subjects and departments, but one may easily become acquainted with the location of the objective features of the campus by following the map on the front and end papers of the book. The illustrations, made from actual photographs, are both attractive and clear. It is one of the best guidebooks which have been anywhere produced, and would in an hour's visit furnish a vivid and accurate idea of the University of Pennsylvania.

FRANK P. GRAVES
The University of the State of New York

Eminently Satisfactory

THE MEDIEVAL LIBRARY, *by James Westfall Thompson*. Chicago: University of Chicago Press, 1939. viii+682 pages. $5.00.

This volume begins with a brief reference to the situation in respect to libraries in the ancient world; 112 pages are devoted to church and monastic libraries in the early Middle Ages; 240 pages to libraries of Italy, Germany, France, Norman and Angevin England, and those of Byzantine, Greek (Southern Italy), Jewish and Moslem origin in the High Middle Ages; 218 pages to English, French, German, Scandinavian, and Italian institutions of the late Middle Ages and early Renaissance; and 71 to the making and care of books, under such heads as the Scriptorium; library administration; paper, book trade, and prices; and the migration of manuscripts. A historical index of 18 pages is supplied. In the preparation of the volume Mr. Thompson has had the assistance of doctoral graduates, Ramona Bressie, S. K. Padover, Isabella Stone, Geneva Drinkwater, Dorothy Robathan, and Florence Edler de Roover; and Claude H. Christensen who have contributed ten of the twenty-one chapters.

Despite the range and detail of material herein set forth, the author points out that it is yet incomplete; Spanish libraries of the Middle Ages could not be included, due to the lag of historical research in that area. Apart from this gap, which is unavoidable, the volume covers the field in an eminently satisfactory way. The value of the book to students of Western intellectual history can be only inadequately expressed in this brief notice. So far as this reviewer is concerned, it is the most valuable single volume on Medieval culture that has come his way in many a year. It is comprehensive, thorough, well-documented, being built upon the findings of a great host of monographic studies by scholars in many lands. If a prospective reader should feel a bit apprehensive on opening such a ponderous volume, let him continue undismayed by size; he will find a fascinating story of manuscripts which he will be loathe to interrupt.

The author calls attention to the fact that Bacon lamented the lack of "a just story of learning" in 1605. Though the void has been filled in some degree, it is still true that we have not that authentic general history of learning which he desired. A Polybius is wanted for that far-ranging theme, one who can see all with detachment and in proper relation-

ship. But such a Polybian philosopher-historian will have to rely on numerous detailed studies of particular institutions, movements, and individual contributions. Here is one solid study to which he will certainly turn.

THOMAS WOODY
University of Pennsylvania

To Use in Rebuilding the Curriculum

A FUNTIONING PROGRAM OF HOME ECONOMICS, *by Ivol Spafford.* New York: John Wiley and Sons, 1940. xiii+469 pp. $3.00.

In the author's own words "this book is for the administrator, curriculum worker or teacher, within or without the field of home economics, who, in rebuilding the curriculum would draw into it the best that each field has to offer."

Miss Spafford, with a wealth of experience as a teacher and supervisor of home economics and as assistant director in charge of curriculum revision in the General College, University of Minnesota, has had unusual opportunity to see and evaluate recent programs of education for home life throughout the country. She concedes that many academic subjects are making contributions indirectly to this field, but maintains that home economics has its own unique contribution to education for better home living throughout the school program. Although the trend in all forward-looking educational programs is building on the needs and interests of students, bringing the life of the home and the community into the classroom and putting classroom learning into use in living, home economics has for its main concern focusing attention on the problems of the home and family life. It makes home living the core of its educational program, unifying educational experiences in their relation to home-life activities, personalizing instruction, and providing for the acquisition of the techniques and skills of living.

Miss Spafford finds school officials and leaders in curriculum work showing an increasing appreciation of the importance of education for home living, but few yet who have achieved a program where the home, the school, and the community work together for the education of children, youth, and adults toward the definite goal of improved family life. Included are helpful citations of work in many parts of the country demonstrating the value of this kind of education for boys and girls, men and women.

A brief outline of the development of the home-economics program since the grant of Federal aid shows how the emphasis has been shifting to home living through the use of the home as a learning center. Miss Spafford warns those preparing to be teachers of home economics of the difficulty of seeing whole problems, the tendency to overemphasize the immediate and transitory interest as a basis for curriculum building, and the danger of bewildering pupils with problems without providing the tools for helping them find solutions. Education in home economics has made rapid advances in giving prospective teachers a richer and broader teaching experience by providing contacts with various types of schools, extending the learner's experience beyond the classroom to acquaintance with large school programs, and providing for participation in the life of the community. A few institutions are listed as having a five-year teacher-education program. The in-service program is receiving more attention from both supervisory staffs and education departments. Although preparation for gainful employment continues to be emphasized at the college level in most institutions there is an increasing number concerned with family-life education for both men and women as a part of preparation for living.

Instances of research in education for purposes of curriculum building and for effective teaching procedures are listed as pointing to the beginnings of a much-needed research program in home-economics education. Miss Spafford closes with a plea for centers for research in home-life education where carefully

planned and guided experimentation in regard to what should be done at the different levels and for different groups, together with the evaluation of procedures, may be worked out.

GENEVIEVE FISHER
Iowa State College

A Noteworthy Contribution

SARAH LAWRENCE STUDIES 1940, *by Undergraduates of Sarah Lawrence College.* Bronxville, New York: Moak Printing Company, 1940. 123 pages. $1.00.

The principle underlying all the experiments that have gone under the name of progressive education is respect for the individual. Progressive education attempts to give to any person of any age a chance to grow and to develop whatever good he has in him. Sometimes this principle has degenerated into a weak attempt to give pupils what they want, but in general it has meant broader opportunities for the students, and greater recognition of the value of their work on the part of the faculty.

Sarah Lawrence College, since its foundation, has been an outstanding example of the best in progressive education, and it has now made another noteworthy contribution in its third volume of studies—the work of undergraduates at Sarah Lawrence. The studies included cover a wide variety of subject-matter, from the analysis of the spectrum and experiments on white rats to the Japanese policy in the present war, and the effect of the co-operatives on the price of milk in New York state. The volume represents, also, a wide variety of ways of making known the work of the creative spirit. Among the contents are included two photomicrographs of slides made in a course in embryology, a series of photographs of work done in art class, and directions for a ballet.

These studies deserve the ranking they were given by their professors. They are in general clear and honest statements of opinion or the result of study and investigation, which are worthy of publication. The studies in science and social science are more impressive than those in the arts; they have a direct forthrightness which gives one confidence in the conclusions however slight they may be.

In comparison, the contributions from the arts are rather tenuous, and one is conscious of a certain striving for effect which is pleasingly absent from the other articles. And yet credit for sanity and humor in art must be given the editors and the students when we read the last poem.

BLACK SHEEP

I do not go for Mr. Dali's clocks
Hung limply over tablecloths and rocks;
I do not send my tinfoil off to Spain,
Stravinsky's discords give my ears a pain.
To Mr. Cummings I address a plea
For punctuation with my poetry.
I have not read the works of Thomas Mann;
I do not tell my troubles to my don;
The swing of Goodman makes my toenails curl—
And yet—I am a Sarah Lawrence girl.

Theo Bostwick
(First year)

LOUISE DUDLEY
Stephens College